



POST-DISASTER ROYAL COMMISSIONS:  
LESSON-LEARNING AND THE  
IMPLEMENTATION OF RECOMMENDATIONS

by

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# ABSTRACT

Australia's continued adoption of post-disaster inquiries, specifically royal commissions to investigate and evaluate preparedness, responses and the aftermath of catastrophic disasters suggests it is an appropriate tool for identifying lessons and learning opportunities that mitigate their future impacts. Critiques of the approach question the ability for post-disaster inquiries to create lessons that mitigate future impacts of disasters, and to improve responses, and preparedness through the implementation of their recommendations and findings.

Three case studies are used to understand how post-disaster inquiries undertake their investigation: the 2009 Victorian Bushfires Royal Commission, the 2010-11 Queensland Floods Commission of Inquiry, and the 2010-11 Canterbury Earthquakes Royal Commission. This thesis uses these cases to comparatively analyse and evaluate the strengths and weaknesses of royal commissions as a tool for lesson-learning from a disaster.

Throughout its analysis of these cases, this thesis focuses on decision-making throughout their establishment, investigation, and post-investigation stages. It looks at how the impacts of these decisions affect an inquiry's outcomes, notably through the implementation of its recommendations.

This thesis concludes by reaffirming the continued usefulness of post-disaster royal commissions. It highlights that changes to the way we think about and undertake these will make them more effective, appropriate, and useful for ensuring implementation of lessons that mitigate the impact of future disasters. Key to this is considering the establishment, investigation, and post-investigation stages of a post-disaster inquiry as part of one process, where responsibility for the implementation, evaluation, and consideration of recommendations is made throughout. This thesis develops a series of recommendations to improve the effectiveness, operation, and outcomes of post-disaster royal commissions. It is argued that central to this is viewing post-disaster inquiries as part of a wider process of disaster policy development, where the focus is on the disaster type, rather than a specific event.

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## Acronyms and Abbreviations

2009 bushfires	2009 Victorian Black Saturday bushfires
2010-11 earthquakes	the 2010-11 earthquakes across New Zealand's Canterbury region
2010-11 floods	2010-11 Queensland floods
ABC	Australian Broadcast Corporation
ACT	Australian Capital Territory
ADF	Australian Defence Force
AFAC	Australasian Fire Authorities Council
ALRC	Australian Law Reform Commission
BBC	British Broadcast Corporation
BRCIM	Bushfire Royal Commission Implementation Monitor
CBD	Central Building Districts
CERA	Canterbury Earthquake Recovery Authority
CFA	Country Fire Authority
Chambers Inquiry	<i>The bush fire disaster of 7th February 1967: report and summary of evidence</i>
CMGs	Civil Defence Emergency Management Groups
CNN	Cable News Network
COAG	Council of Australian Governments
CSIRO	Commonwealth Scientific and Industrial Research Organisation
Cooper Inquiry	<i>2010-11 Canterbury Earthquake Royal Commission</i>
CTV	Canterbury Television

DEPI	Victorian Department of Environment, Land, Water, and Planning
DSE	Victorian Department of Sustainability and Environment
DEWS	Queensland Department of Energy and Water Supply
EQC	Earthquake Commission
EWDC	Earthquake and War Damage Commission
FRURDV	Fire Recovery Unit in Regional Development Victoria
Holmes Inquiry	<i>2010-11 Queensland Floods Commission of Inquiry</i>
ICA	Insurance Council of Australia
IMT	incident management teams
MBIE	New Zealand's Ministry of Business, Innovation, and Employment
McArthur Report	<i>Tasmanian bushfires of 7th February 1967 and associated fire behaviour characteristics</i>
McLeod Inquiry	<i>Inquiry into the Operational Responses to the January 2003 in the ACT</i>
NGOs	Non-Government Organisations
NSW	New South Wales
PGC	Pyne Gould Corporation
PPRR	Prevention, Preparation, Response, and Recovery
QRA	Queensland Reconstruction Authority
SES	State Emergency Services
Sofronoff Inquiry	<i>Grantham Floods Commission of Inquiry</i>

Stretton Inquiry	<i>Royal Commission to inquire into The causes of and Measures taken to Prevent the Bush Fires of January, 1939, and to Protect Life and Property and The Measures to be Take to Prevent Bush Fires in Victoria and to Protect Life and Property in the Event of Future Bush Fires</i>
Teague Inquiry	<i>2009 Victorian Bushfires Royal Commission</i>
VBRA	Victorian Bushfire Reconstruction and Recovery Authority

# CHAPTER 1

## INTRODUCTION

Australia's continued experience of catastrophic natural events, whether bushfire, flood, earthquake, drought, cyclone, or some other form of disaster suggests that their occurrence is inevitable. As such, changes and advancements in disaster policy or management systems, should at the very least mitigate the impacts of future catastrophic events through improved disaster preparedness and responses. The severity and impacts of these events are dependent on numerous factors, with catastrophic disasters either directly or indirectly affecting most of Australia in some way. Despite technological advancements and increases in knowledge and awareness of disasters and their impacts, Australia continues to experience human or climate induced seasonal weather events.

Despite the ability to reduce the risks associated with natural disasters improving immeasurably over the past century, it is still possible for Australians to better prepare for, respond to, and recover from catastrophic events (Crosweller 2015: 48). Australia's capacity to manage and mitigate disasters has recently been tested by the occurrence of the 2009 Victorian bushfires, the 2010-11 Queensland floods (including Cyclone Yasi), the 2011 Victorian floods, the 2012 Perth Hills bushfires, the 2013 Tasmanian and Blue Mountains bushfires, the 2013 ex-tropical Cyclone Oswald in Queensland, the April 2015 New South Wales (NSW) floods, the June 2016 floods in Tasmania, Australian Capital Territory (ACT), and NSW, the 2016 Tasmanian bushfires, and the 2017 tropical Cyclone Debbie in Queensland and NSW.<sup>1</sup> These disasters have presented the opportunity for governments across Australia to learn from the experience of the event and improve disaster resilience, preparedness, and responses.

As our capacity to "treat risks has increased, the consequences of impact (loss of life, economic, social, built, and natural impacts) have decreased" (Crosweller 2015: 48). When a disaster's intensity surpasses this capacity, significant and unacceptable consequences occur (Crosweller 2015: 48). In the aftermath of a disaster, it is important that lesson-learning ensures that its future occurrence and impacts are prevented or at least mitigated. Advancements in technology and growth in our knowledge has seen an increase in policy advice, specifically relating to how disaster preparedness and responses can be improved (Crosweller 2015: 48). Australia's ability to reduce the risks associated with natural disasters

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<sup>1</sup> These are just a small sample of the varying types of disaster that have occurred in Australia since 2009. While not all disasters result in the loss of life, there are a plethora of examples that resulted in injuries, destruction to the environment and property, and significant economic losses.

has increased. This has occurred despite economic growth and increases in our regional population (Crosweller 2015: 48).

To learn from catastrophic disasters, various Australian governments have established some form of public inquiry or inquisitive investigation. Australian government authorities have established over 257 separate inquiries into the impact of, preparation for, and response to specific extreme weather events including bushfires, floods, earthquakes, cyclones, and other forms of emergency (Eburn and Dovers 2015: 495). Despite approximately 1,727 recommendations resulting from these inquiries on areas, such as shared governance responsibilities, preparedness, response, recovery, fire agency organisation, and research, and technology, concerns exist over whether these recommendations have transferred into lessons (Eburn *et al.* 2015: 2).

Many post-disaster inquiries are established not just to evaluate and investigate the disaster, but also to review the preparedness and responses of various affected communities, governments, and emergency services. Public inquiries are adopted in response to catastrophic events because it is considered an effective utility of government, notably for how it designs recommendations. A post-disaster inquiry formulates recommendations that aim to mitigate the impact of future disasters and improve the preparedness and responses of governments, stakeholders, and communities. Australian governments adopt royal commissions to evaluate catastrophic disasters because they are perceived as independent and are the most powerful form of inquiry available to governments. Similar approaches to review catastrophic events are adopted in international jurisdictions; however, Australia's federal system of government and its experience of a diverse range of disasters has seen public inquiries and royal commissions frequently utilised in response to these events.

A high level of prestige is associated with Australian royal commissions. Their adoption suggests to the public that governments view demonstrating the appearance or perception of learning from the experience of a disaster as important. Highlighting the perception of learning is important, even if a government's intentions in establishing the post-disaster royal commission differ to that of the community or other stakeholders.

Since 1939 over 50 inquiries have been established to investigate the impact of extreme weather events in Australia. Despite this, concerns exist over what post-event inquiries reveal about disasters and their management. Michael Eburn and Stephen Dovers (2015) question the effectiveness of post-disaster inquiries by identifying lesson-learning opportunities that assist communities to rebuild or develop resilience in anticipation of a future similar event. They argue that it is time to do post-disaster reviews in a different way (Eburn and Dovers 2015: 495). This thesis asserts that post-disaster inquiries remain an effective method for identifying lesson-learning opportunities that aim to mitigate the future impacts

of disasters. The successful implementation and evaluation of a post-disaster inquiry's recommendations is dependent on various decisions made throughout its establishment, investigation, and post-investigation stages. This thesis asserts that such decisions impact salience and attention towards a post-disaster inquiry, thus affecting its success in ensuring lesson-learning occurs. A lack of perceived lesson-learning and recognisable outcomes suggests that they need to be conducted differently. Limited salience and attention towards a post-disaster inquiry's investigation and post-investigation stages is a result of the memory of the disaster or event decreasing over time.

This thesis conducts a comparative analysis of recent post-disaster royal commissions to illustrate how decision-making throughout its different stages impacts the appropriateness of the approach and its effectiveness. Its analysis examines the effectiveness of post-disaster royal commissions and notes how a catastrophic event creates an arena where governments, communities, and other stakeholders desire change. The key to an effective post-disaster inquiry is the implementation and evaluation of its recommendations and conclusions. This thesis asserts that judging an inquiry as successful is dependent on maintaining attention and salience for long enough to ensure the effective implementation of its recommendations. However, the success of a post-disaster royal commission's recommendations can only be judged by the occurrence of a similar event in future that tests what had previously been implemented or changed.

While it is observed that royal commissions are most effective when they adopt a rational approach to decision-making (in the formation of their recommendations and lessons), Scott Prasser (2006: 79-84) asserts that such expectations of royal commissions may be misplaced, especially if the approach is used as a political instrument to benefit executive government. Policymaking through inquiries should be the outcomes of decisions made by those in positions of authority that are then transferred downwards for compliant organisations to implement. This approach is successful when defined goals are met and contribute to solving outlined problems. When governments establish a royal commission, they aim for policy to be developed through the analysis of advice provided on an outlined problem, which involves defining issues, providing options, and making recommendations that encourage preferred courses of action (Prasser 2006: 307).

Royal commissions can reinforce the notion of rationality driven policy development, as when clear terms of reference are issued, commissioners with relevant expertise use extensive information gathering techniques to produce their reports and recommendations. However, rationality driven policy development does not occur this neatly (Colebatch 1998: 37-39). The appointment of public inquiries to assist with policy development are not only undertaken for a combination of rationality and political expediency motives.

A post-disaster inquiry is not the only method used in the development of disaster policy, but it is an influential method. This is due to the ability for a post-disaster-inquiry to gather information soon after a disaster's occurrence, and as such it presents an alternative to other methods of disaster policy development where an incremental approach occurs. An incremental approach to policy development can be argued to occur because a lack of public memory or desire for change exists. The occurrence of a disaster changes this attitude, because it acts as a focusing event. The level of attention this creates inspires disaster policy development, especially as in a catastrophic events aftermath greater information is available to decision makers. Establishing some form of post-disaster inquiry is a way of harnessing this desire for change by seeking greater information about the event, the reasons for its occurrence, and its impacts.

When decision makers are acutely aware of a disaster's impacts, they are better equipped to make informed choices. The occurrence of a disaster punctuates this incremental approach to policy development in this area, through an increased demand for action. A post-disaster inquiry's success in informing lesson-learning is linked to its outputs being associated with a rational decision-making framework, but it is important that these lessons are understood through the political expedient rationale for its appointment.

The occurrence of a disaster, when paired with the establishment of a post-disaster inquiry, supports the application of the 'punctuated equilibrium' hypothesis, because it highlights an interruption to traditional approaches to disaster policy development. Bryan Jones and Frank Baumgartner (2002, 2012) developed the 'punctuated equilibrium' hypothesis. They see "policymaking as a continual struggle between the forces of balance and equilibrium dominated by negative feedback processes and the forces of destabilization and contagion, governed by positive feedback processes" (Jones and Baumgartner 2012: 3). The focus of a 'punctuated equilibrium' is on the mechanisms that lead to policy change (Baumgartner and Jones 2012: 4). Positive feedback after a disaster refers to the experience of its impacts, whether direct or indirect, that affect the appetite of governments, communities, and individuals for change, which after a disaster occurs through the rapid development of disaster policy or some form of adverse action that leads to change. In between the experience of a disaster there are long periods of little or no policy change, because little discussion of such events and their consequences occur (Birkland 2006: 10). Due to their unique investigative feature, post-disaster inquiries are a suitable forum for harnessing the momentum for change after a disaster, which this thesis argues represents a 'punctuated equilibrium' in disaster policy development. This concept provides an overview of why disaster policy is developed more rapidly after the occurrence of a catastrophic event. It also assists with explaining why the use of a post-disaster inquiry is important for ensuring adequate and informed decisions are made.

Post-disaster inquiries into catastrophic events differ to those used for other types of policy issues, which is exhibited in the plethora of past similar examples that exist. This, along with the direct and recognisable impacts of an event on communities, businesses, and various other stakeholders encourages a response from governments that is generally difficult to adequately achieve, especially in the absence of any recent disasters to act as a focusing event. Politically expedient reasons, along with a rational decision-making rationale, frame the establishment of post-disaster inquiries. Politically expedient reasons for the appointment of public inquiries include showing public concern about an issue when no real action is intended, appearing to respond quickly to a crisis or issue, postponing or delaying action to control the agenda, reducing the demands on governments, or providing a venue for the airing of grievances (Prasser 2006: 86). To achieve rational outcomes, an informed investigation is required to seek and evaluate knowledge independently, while also providing ‘cold’ impartial advice (Prasser 2006: 70).<sup>2</sup>

This thesis adopts a comparative case study approach because it seeks to evaluate and review the usefulness of post-disaster inquiries. It utilises three recent post-disaster royal commissions from jurisdictions with Westminster traditions of public inquiries. The chosen cases are all post-disaster royal commissions, and include: the *2009 Victorian Bushfires Royal Commission* (Teague Inquiry)<sup>3</sup> that investigated the 2009 Victorian Black Saturday bushfires (the 2009 bushfires)<sup>4</sup>; the *Queensland Floods Commission of Inquiry*<sup>5</sup> (Holmes Inquiry) that investigated the 2010-11 Queensland floods (the 2010-11 floods); and the *Canterbury Earthquakes Royal Commission* (Cooper Inquiry) that investigated building failure resulting from the 2010-11 earthquakes across New Zealand’s Canterbury region (the 2010-11 earthquakes). The 2009 bushfires and the 2010-11 floods occurred in Australia and are adopted to evaluate the differences and failings of Australian responses to disaster. The 2010-11 floods are included not just because of New Zealand’s similar Westminster traditions that dictate the development of an inquiry system, but also because it represents a government holding a level of sovereignty that in Australia is split between its Commonwealth and State Governments. New Zealand’s unicameral system is ideally suited for comparison with Australia’s federal system, especially in relation to

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<sup>2</sup> ‘Cold’ advice is deemed to be long-term, focussed, strategic, research-based, and most importantly uncompromising, best solution focussed, and not concerned with partisan gain or electoral issues (Prasser 2006: 70).

<sup>3</sup> This thesis refers to the inquiries it discusses by the surname of their chairperson, which is the traditional approach adopted to simplify continued references.

<sup>4</sup> To simplify references to the three disasters that caused the post-disaster royal commissions used as cases in this thesis, they are referred to as the 2009 bushfires, the 2010-11 floods, and the 2010-11 earthquakes. References to other disasters will be more specific, so as to avoid confusion.

<sup>5</sup> Very little difference exists between a royal commission and commission of inquiry, and there are no differences in their purposes, functions, procedures, and effects. The main difference is that royal commissions begin with a greeting from the sovereign, but both share a high standing within the community. Both approaches are also traditionally appointed under similar legislation depending on their jurisdiction of origin.



disasters, because disaster policy in Australia has traditionally been the responsibility of its states. The Commonwealth Government has increasingly become responsible for areas of emergency management, especially as a nation-wide approach to disasters is sought. Comparing the disaster responses of New Zealand, where decision-making power is centrally held, to Australia's decentralised approach, allows for the comparison of how this approach functions and impacts the policy process. Aynsley Kellow argues that this key difference between Australia and New Zealand's system of government, paired with our proximity and similarities in political systems, culture, and history, make it ideal for comparative analysis (Kellow 1988: 61).

This thesis has selected cases where three similar approaches were adopted by different governments in response to a disaster. It is used to evaluate and recommend shortcomings in the approach and to note where improvements can be made to ensure that effective lesson-learning, that improves preparedness, and responses is achieved and recognised. Further explanation for the case selection appears in the methodology chapter (Chapter 3).

The analysis of the Teague, Holmes, and Cooper inquiries cases assists the evaluation of how media and community attention throughout the establishment, investigation, and post-investigation stages of a post-disaster inquiry impacts its effectiveness in informing lessons that improve preparedness and responses. This thesis uses its data to present a series of recommendations outlining how future post-disaster inquiries throughout Australian and international jurisdictions can be successfully and effectively undertaken, thus improving their disaster preparedness and responses. In doing so, it notes that like all royal commissions, the key to the success of a post-disaster inquiry is the implementation and evaluation of its recommendations and conclusions, which is dependent on continued salience and attention.

The term salience is used throughout this thesis. It refers to the level of interest that is attached to a post-disaster inquiry and its various stages. Essential to ensuring that lesson-learning is a result of a post-disaster inquiry, is that salience that emerges from a disaster's occurrence is extended throughout any corresponding inquiry, specifically to ensure it exists when the implementation and evaluation of recommendations happens. If this occurs effectively, lesson-learning will be recognised through a post-disaster inquiry and will contribute to the mitigation of future disaster through improved preparedness and responses.

The scope and focus of a post-disaster royal commission is dependent on its terms of reference. Whether a post-disaster royal commission's terms of reference are specific, narrow, non-specific, and/or broad impacts what is included and excluded from its investigation. This thesis notes that different methods of design were used in the development of the Teague, Holmes, and Cooper inquiries terms of references,

which impacts its investigation and outcomes. Due to the importance of their terms of reference, this thesis has included these separately as appendixes.<sup>6</sup>

This chapter introduces the argument and structure of this thesis. The first section provides background information on the key concepts it examines. It looks at Australian natural disasters, disaster management practices, and the development of policy, which occurs incrementally when not fuelled by the memory of a disaster and its impacts. A desire for rationality in decision-making throughout their establishment, investigation, and post-investigation stages is promoted through the introduction of background information on public inquiries and royal commissions. The presence of political expedient reasons in a post-disaster inquiry's establishment are also highlighted. This chapter outlines background information on the use of post-disaster inquiries, which helps develop the research rationale of this thesis. The research rationale is provided in the following section, along with the key research questions and aims of this thesis. Following this, the scope and significance of this thesis is outlined. Finally, this chapter provides a chapter overview.

## **Background**

### *Disasters: management, decision-making and policy development*

Australia's experience of catastrophic disasters is not unique. Every natural disaster causes some form of loss, and governments, communities, and individuals are rarely fully prepared for their economic, human, and environmental cost. When a disaster causes large scale loss, the livelihoods of individuals and communities are impacted, with damage resulting to both private and publicly owned property (Birkland 2006: 104-05). Predicting and preparing for catastrophic disasters and their impacts assists with minimising and averting potential damage, but despite increasing improvements in technology, the impacts of these are still often unexpected. For this reason, it is important that policies and procedures aim to improve preparedness and responses to future disasters.

A disaster's impacts have the potential to extend beyond the national and geographical boundaries of its occurrence. These impacts are most significantly felt in developing countries where a lack of resources exist to assist with preparation and responses (Cavallo and Noy 2010: 6). Most disaster-related fatalities occur in heavily and densely populated regions, such as in Asia and the Pacific (Cavallo and Noy 2010: 6-7). Due to the superior resources available to them, which include a stronger economic position and disaster ready infrastructure, developed countries have differing experiences of a disaster

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<sup>6</sup> The Teague Inquiry as Appendix A, The Holmes Inquiry as Appendix B, and The Cooper Inquiry as Appendix C. Throughout this thesis reference is made to these inquiries terms of reference and their inclusion provides further support for its argument.

to developing countries. However, the resources available to them do not completely eradicate a disaster's potential impacts on a developed country. Developed countries in the Asia and Pacific region, specifically Australia, New Zealand, and Japan continue to experience floods, fires, cyclones, earthquakes, and tsunamis; these all challenge public perceptions of a government's preparedness, response, and recovery strategies (Beirman 2012).

A serious community disruption is caused when a disaster's consequences exceed the day-to-day capacity of the relevant statutory authorities, which causes an uncommon mobilisation and organisation of resources. A disaster must adversely affect a large group of people, which means its impacts are out of the realm of ordinary experiences and are shared across a community (Saylor 1993). Its impacts vary and comprise physical damages, including injuries, fatalities, and destruction to infrastructure, the environment, and private property, as well as social and economic damages (Saylor 1993; Winkworth 2007: 17).

Bushfires, droughts, floods, severe storms, earthquakes, and landslides are considered part of Australia's natural cycle of weather patterns, but human factors such as overstocking, vegetation loss, dams, and groundwater and irrigation schemes impact their occurrence (Wettenhall 2014: 94-95). Despite being a natural and inevitable part of Australia's ecosystem, disasters cause great danger to people's lives and livelihoods. The financial hardship, destruction of property, and fatalities that are caused by disasters have led to their experience becoming part of Australian folklore.

Political scientists have traditionally given little attention to the study of disasters (McEntire 2005: 2). Distinguishing natural disasters from other emergencies is rarely conducted, but benefits exist in further defining and understanding these. In political science "disaster research has tended to be marginalized and [is] largely invisible" (Hannigan 2012: 7).

There are three alternate perspectives on how disaster policy formation occurs. These are incrementalism, which is found in the work of Lindblom (1959) and is referred to as 'muddling through'; rational-comprehensive (Simon 1976), which is where all possible methods or alternatives for the direction of a policy are considered; and mixed scanning (Etzioni 1976), which is where decision-making relies on a mixture of the two previous processes. In the mixed scanning approach, reliance is on achieving a level of consensus about a choice before moving forward, which leads to results being "less than necessary [and] later than necessary" (Etzioni 1976: 95). Traditional advancements in the development of disaster policy occur incrementally, where small amendments or adjustments are made to existing policies. The interests of actors with responsibility for decision-making drive politics and policymaking. In the development of disaster policy and procedures, advancements in the availability

of information and knowledge have driven changes aimed at mitigating disasters and improving preparedness and responses.

The ultimate test of emergency management arrangements should always be the extent to which they deliver an acceptable measure of safety and security to a community throughout the experience of a disaster. The most meaningful and effective way to evaluate these arrangements is to examine their application in the management of a major emergency (Comrie 2011: 4). Each new catastrophic disaster triggers further learning through the development of disaster policy and procedures, which punctures the traditional incremental approach (Birkland 2006: 8). To observe how the occurrence of a disaster substantively changes policy, it is necessary to examine and utilise methods that harness lesson-learning and policy development opportunities.

As a trigger event for change, a disaster creates a positive arena for change, where the development of disaster policies and procedures have the potential to assist with mitigating the impacts of future similar events (Birkland 1998: 53). Birkland (1998: 53) discusses “the importance of sudden, attention-grabbing events, known as focusing events, in advancing issues on the agenda, and as potential triggers for policy change.” He examines the impact of focusing events on the political agenda. Birkland (1998) contends that developments along the policy process after a focusing event is dependent on the type of event, as well as the organisation and nature of the policy community. As with all discussions of agenda-setting, Birkland (1998) contends that this advocacy for change will eventually fade and a new focusing event will trigger a change in the community’s focus. Choosing to appoint a royal commission, or some other form of public inquiry facilitates lesson-learning after the experience of a catastrophic event and is not new. Despite not being a new approach, the use of post-disaster inquiries to inform and achieve lesson-learning is challenged. Rational views of inquiries assert that it is a controlled method for policy development, where independent experts provide ‘cold’ impartial advice about new policy directions (Prasser 2006: 69-78). The provision of these require full and public consideration of all options (Prasser 2006: 69-78).

### *Royal Commissions and Public Inquiries*

Australia has a long history of utilising various forms of public inquiries that reflect a desire “to investigate an event or action or to delve deeply into a complex policy area” (Prasser and Tracey 2014a: viii). Scott Prasser and Helen Tracey (2014a: viii) observe the meaningful, but not overly visible role that public inquiries perform in Australia’s political system and public life. Gregory Inwood and Carolyn Johns (2016: 400) observe the important role that public inquiries have “in public policy and administration.” Its budget, the number of commissioners, and the nature of its research and public

consultation all need to be considered during a royal commission's establishment (Inwood and Johns 2016: 399).

One of the first acts passed by Australia's Commonwealth Parliament was the *Royal Commissions Act 1902 (Cth)*, which provides the foundations for the executive's establishment of all future royal commissions (Prasser 2006: 28). Australian states maintain their ability to appoint royal commissions through specific state legislation (ALRC 2009: 31-32), with until recently, Victoria being the only exception. Its change in 2014 results from a recommendation of the Teague Inquiry, which suggested that Victoria establish legislation to assist with establishing and undertaking future inquiries (Teague 2010a: 37). Generally, the legislation provides royal commissions and their commissioners with wide-ranging coercive powers of investigation, while also providing protection to its members and any witnesses from legal action (Prasser 2012).

Various forms of public inquiries exist, including: royal commissions, parliamentary inquiries, task forces, and commissions, coronial inquiries, Commonwealth-state working groups, ombudsmen commissions, productivity commissions, and various other temporary taskforces and inquiries (Croucher 2014: 8). Differences exist between inquiry types, but all share a set of distinctive characteristics. All public inquiries are temporary ad hoc bodies, appointed by an arm of government to provide advice or to investigate an issue, against their specific terms of reference (Prasser 2006: 31-33). Due to the array of inquiry options available to governments, most are not royal commissions. Despite being an inheritance of Australia's colonial past, royal commissions and public inquiries have adapted to its unique constitutional framework and continue to evolve with other institutions of government, so as to perform a significant role in modern government (Prasser and Tracey 2014b: 7). Similarly, the unique features of government in other countries with Westminster traditions have altered the way royal commissions are undertaken, in addition to the rationale for their appointment (Prasser and Tracey 2014e: 295; Starr 2014; Simpson 2014; Hoole 2014).

Royal commissions are the highest and most prestigious form of inquiry available to Australian governments. Accordingly, they hold a unique place in its system of government (Hogan-Doran 2013).

Prasser (2006: 31) observes that the prestige of royal commissions emerges from their publicness. He asserts that this publicness emerges due to their openness to the public and the way that royal commissions respond to their terms of reference, hold public proceedings, seek community input through public submissions, undertake wide consultation, and publicly release their findings and recommendations through reports (Prasser 2006: 31-33). Prestige is also gained through the perception of a royal commission as independent. This perception is enhanced by the appointment of independent

commissioners who are drawn from outside government, who are generally selected for their special and relevant expertise (Prasser 2006: 121-122).

There are three identifiable stages of any public inquiry: its establishment, investigation, and post-investigation. Every stage has a differing set of objectives, but an effective inquiry includes the occurrence of each. Throughout each stage, a series of decisions are made and actions undertaken that impact an inquiry's effectiveness and the outcomes of its investigations.

Despite royal commissions being 'independent' of government, they entirely fund them. The presence of a past or present judge as chair of a royal commission or other form of public inquiry reinforces their independence, especially as they are not judicial inquiries (Hogan-Doran 2013), but more so because of Australia's separation of powers where the judiciary is independent of the executive. The perceived prestige and importance of royal commissions is explained by Prasser (2005: 58), who highlights:

[...] their coercive and statutory backed powers of investigation, apparent appointment by the Crown rather than elected officials, their often senior judicial, and legal professional memberships and their open processes.

The decisions and outcomes of a public inquiry are not binding. Instead, their implementation is dependent on the governments that established them, as well as relevant stakeholders. Due to the crowded nature of a government's agenda, the implementation of its recommendations and findings are dependent on continued public salience and attention throughout the three stages of a post-disaster inquiry. This includes maintaining an arena positive for change throughout its entirety, or at least ensuring the desire that exists at its establishment translates into action in the post-investigation stage.

While most public inquiries are not royal commissions, it is their nature, patterns in their use, and their prestige that makes them ideal for investigating catastrophic disasters. Australia's use of royal commissions has gone through periods of high and low frequency. Their highest use was by Gough Whitlam's Labor Government, where in less than three years, approximately 70 non-statutory public inquiries, including 13 royal commissions were appointed (Prasser and Tracey 2014b: 5). Whitlam later observed that his reliance on the approach was because he sought information from which federal or state governments could make decisions (Prasser and Tracey 2014b: 5). A primary focus of this thesis is Australia's reliance on royal commissions as an investigative tool for gathering information and evaluating the preparedness and responses of various actors to a disaster.

Throughout their existence, different Australian governments have had varying approaches to the appointment and use of royal commissions. Some try to avoid them, instead opting to utilise options available within government that they might be able to control more effectively (Prasser and Tracey 2014b: 4). Despite the wide adoption of royal commissions, not just by Australian jurisdictions, but in

other Westminster influenced countries, such as New Zealand, Canada, and throughout the United Kingdom, concerns exist over their continued establishment and use (Prasser and Tracey 2014e: 295; Starr 2014: 307; Simpson 2014: 316, 322; Hoole 2014: 339). Similarities exist in the use of royal commissions and public inquiries between these countries, but differences have emerged since their first adoption. This is due to alternative developments in their culture and systems of government.

The main aim of a royal commission is to gather information, which it should use to formulate knowledgeable recommendations and conclusions. Prasser and Tracey (2014b: 5) argue that this presents a form of evidence based policymaking, which is important because policy issues continue to become more complex. The use of a royal commission addresses concerns over accountability and allows for wider participation that enriches the process of public policymaking (Hogan-Doran 2013). At their best, royal commissions achieve this when decision-making follows a rational framework through provision of impartial, expert, and/or independent analysis and advice; fact gathering; provision of new or updated research; mapping new policy directions; public consultation processes; development and assessment of policy options; review and evaluation of programs and policies; and the market testing of new policy ideas (Hogan-Doran 2013). Information gathering is at the centre of any public inquiry's value and assists in formulating its outputs.

The independence and publicness of public inquiries, particularly royal commissions are tested throughout their duration, because executive government formulates their terms of reference, allocates resources, and sets up their timeframes. As such, it is asserted that they significantly influence "how an inquiry should be conducted" (Hallett 1982: 50). Executive government is also responsible for appointing members to serve on inquiries. Despite appointing the person or group of people conducting the inquiry and formulating its conclusions, there is no statutory requirement for governments to formally respond, let alone implement any of its recommendations (Hallett 1982: 50). The executive has a significant influence on royal commissions, but despite this a perception of separation exists between the investigation and those who appoint it (Donoghue 2001: 18). Bulmer (1981: 375) notes how public inquiries have a "special standing within the political community" and their importance comes from this standing not being matched by any other advisory body.

Discussions by political scientists focus on how a royal commission can be effective investigative and policy development tools for governments. Walls (1969: 365) outlines how concerns with the use of royal commissions existed as early as the 1960s. Concerns about their length and cost raise questions over why royal commissions or public inquiries are appointed at all, especially when those who establish the investigations are elected to solve such problems (Walls 1969: 365). Wider analysis makes reflections on the impact of decisions made throughout a royal commission, specifically on its outcomes and success in mitigating or preventing the reoccurrence of negative consequences.

Extensive debate exists among those who attempt to provide an explanation for the appointment of an inquiry (Bulmer 1982; Weaver 1986; Hogan-Doran 2016; Prasser 2006; Prasser and Tracey 2014). Bulmer (1982: 97) cites the emergence of the public perception that “highly cynical and self-serving motives” often dictate executive governments’ use of royal commissions. This suggests that the rationale for public inquiries is to gain control of the agenda, postpone decision-making, smother an issue, appease public interest in action being taken on an issue, be symbolic, delay decision-making on an issue, and avoid blame (Weaver 1986: 371-398). Despite this, it is also asserted that the establishment of public inquiries serve legitimate, yet politically expedient roles (Hogan-Doran 2016).

Rational decision-making explanations for the use of public inquiries include seeking to: acquire more information and expert advice to tackle policy problems, acquire truth, allocate responsibility, and provide independent, and impartial assessment of an issue, event, or disaster (Hogan-Doran 2013). The public recognise these reasons as key features of a royal commission, and as such, these provide a rationale for their appointment and use to investigate the most significant of issues.

The rationale of a royal commission influences decision-making throughout its stages, including having an impact on the direction of its investigation. Decision-making throughout an inquiry’s establishment and investigation influences the outcomes of its investigation, perhaps most significantly its conclusions and recommendations. The implementation of these and recognition that this has occurred, is the basis for judgements of its success. When rational decision-making is used to frame and undertake inquiries, the assertion is that they are more likely to be effective in informing lesson-learning and in ensuring the implementation of recommendations that facilitates this. The success of these is dependent on attention being carried from a public inquiries establishment stage through to its post-investigation stage.

Further critiques associated with the adoption and usefulness of public inquiries are associated with politics, utility, obfuscation, and delay (Prasser 2006; Hogan-Doran 2016). Prasser and Tracey (2014d: 392-393) affirm that whether used for investigation or policymaking purposes, public inquiries have proven to be an invaluable and indispensable mechanism of government. A royal commission’s independence, openness, and adversarial inquisitive nature contribute to judgements over its ability to make ongoing contributions to sound public policy, as well as its integrity in public life.

When a rational process is not followed in the establishment and investigation of royal commissions and public inquiries it is usually because politically expedient motivations dominate their appointment. When rational decision-making dominates their establishment and investigation, they are more likely to be effective (Prasser 2006). The reporting stage is where the basis for judging the quality of an inquiry’s process, as well as the credibility of its findings can most accurately occur (Prasser and Tracey 2014d: 392). The approaches utility is dependent on whether its recommendations, which dictate the



actions and response of government, are justified throughout a post-disaster inquiry's report, as well as if discussions of counter arguments and counter claims are included (Prasser and Tracey 2014d: 392). This all contributes to "the utility of the inquiry process, [and] its capacity to inform, educate and analyse", which if absent challenges its effectiveness (Prasser and Tracey 2014d: 392).

In their study of public inquiries and royal commissions, Inwood and Johns (2016: 401) recognise areas for future research, pointing to their complex role in the policy process. They note that policy change is complex and that this points to the need for more in-depth research of inquiries to "advance our knowledge of these temporary, yet still very important inquiries in public policy and administration" (Inwood and Jones 2016: 401). Examining the role of royal commissions as instruments fuelling policy change is increasing across countries with Westminster based parliamentary systems (Inwood and Jones 2016; Stutz 2008; Lauriet 2010; Gilligan 2002; Jacobs and Baglay 2014). The inclusion of the Cooper Inquiry assists with developing comparative research between countries with various Westminster traditions, so as to evaluate differences in the approach that have developed based on alternative cultural and political developments.

This thesis notes that the success of a public inquiry or royal commission as an instrument of public policymaking is dependent on lesson-learning that results from its investigation and is recognised through the implementation of its recommendations. The importance of lesson-learning to the success of a public inquiry stresses the importance of recognising the implementation of its recommendations.

Public inquiries are of influential political and policy utility, especially as they "provide a critical source of learning for governments" (Smart 2012: 3). Understanding their utility for policy learning, including whether the implementation of their recommendations translates into lesson-learning, raises questions over the appropriateness of public inquiries as an effective policymaking instrument. In response to disasters, the adoption of inquiries to inform and achieve lesson-learning has been common in Australia. Post-disaster inquiries are used to evaluate and inform lessons regarding emergency management arrangements, as well as a catastrophic event's impacts, including injuries, fatalities, and the destruction of property. Australia's favouritism for appointing post-disaster inquiries is displayed through the more than 257 separate inquiries that have been conducted into the impact of, preparation for, and response to extreme events including fires, floods, cyclones, or some other form of emergency since 1939 (Eburn and Dovers 2015: 495).

Recommendations of a royal commission or other public inquiry are not binding, instead executive government must make decisions about how their implementation will occur (Hogan-Doran 2016). Among the public, an expectation exists at the establishment of a post-disaster royal commission that

said inquiry will not only act as a solution to the problem investigated, but will also improve future disaster preparedness and responses.

The important role post-disaster inquiries perform in collecting, analysing, and summarising information, which is used to construct recommendations aimed at mitigating or preventing the impacts of a similar event in future, is challenged by critiques questioning their continued appropriateness and usefulness. Eburn and Dovers (2015: 495) contend that it is time to look towards alternatives to royal commissions and quasi-judicial inquiries when trying to learn lessons from a disaster. Their main critique questions the value of continuing to use the same approach to review events, especially if we expect the outcomes of these to prevent reoccurrence (Eburn and Dovers 2015: 495). Post-disaster inquiries continue to be established because they provide a method for identifying the underlying cause of a crisis and allow for reconciliation through the appointment of blame, accountability, or responsibility (Hogan-Doran 2016).

In the aftermath of a crisis, a significant challenge for political leaders is the highly complex and inevitable ‘search for solutions’ (Boin *et al.* 2005: 2-3). This search has transformed post-disaster inquiries from an instrument used to investigate how to maximise future disaster preparedness and responses into an exercise in accountability. Boin *et al.* (2005: 101-103) stress that when a post-disaster inquiry focuses on questions of responsibility or guilt, it demonstrates an “interaction between actors who are out to protect their self-interests rather than to serve the common good.” This has led to a combative and adversarial search for answers after a disaster, where the focus is on discovering who is responsible and attributing blame (Wettenhall 2015: 96-97). This impacts the ability for the focus of disaster responses to be on organisational and system learning, but despite this, the first action after major floods and bushfires in Australia remains the establishment of an inquiry (Wettenhall 2015: 96-97). The failure to do so would leave a government being “perceived as utterly derelict” (Wettenhall 2015: 97). This thesis addresses the question of how the approach can be improved to ensure that it “highlight[s] the need to learn from past mistakes and induce organizations and policies to improve accordingly” (Boin *et al.* 2005: 101).

Catastrophic events, such as those discussed in this thesis, will continue to occur, but this should not distract from the use of post-disaster inquiries, especially if lessons from past examples are evaluated and demonstrated to improve preparedness and responses. Past post-disaster inquiries have informed significant lesson-learning in Australia, with some of the recommendations of the *Royal Commission to inquire into The causes of and Measures taken to Prevent the Bush Fires of January, 1939, and to Protect Life and Property and The Measures to be Take to Prevent Bush Fires in Victoria and to Protect Life and Property in the Event of Future Bush Fires* (Stretton Inquiry) serving to protect forests and public land from future disasters (Wettenhall 2015: 102). Recommendations of the Stretton Inquiry led

directly to the establishment of the Victorian Country Fire Authority (CFA)<sup>7</sup> and the implementation of the *Forest Act 1958 (Vic)* (Wettenhall 2015: 102). Latter inquiries have contributed to the development of the *Prepare, stay, and defend your property or leave early* directive, which is otherwise recognised as ‘Stay or go’. This policy is developed from conclusions and recommendations emerging from a series of inquiries, but was heavily critiqued in the Teague Inquiry.

Outcomes of previous post-disaster inquiries have contributed considerably to the development of disaster policy, particularly as they aim to improve preparedness and responses to future events. A post-disaster inquiry provides the framework for formulating responses to a disaster when the expectation is that large scale evaluation and change will eventuate. This position highlights the continued relevance and usefulness of post-disaster inquiries, but critiques of their effectiveness illustrate where they can be better conducted. This thesis examines the impacts of decision-making throughout the establishment, investigation, and post-investigation stages of a post-disaster inquiry. In doing so, it will outline the value that the approach offers in response to a disaster. It also recognises that sustained or increased public salience and attention contributes to a post-disaster inquiry’s lesson-learning capability and the implementation of its recommendations.

## **Rationale for the study**

Concerns over the utility of royal commissions in Australia, though not exclusive to post-disaster examples are deserving of further analysis and evaluation. Central to the analysis of this thesis and the development of its rationale, is the need to further understand and evaluate post-disaster inquiries, especially how their outcomes impact policymaking and whether developments to the approach can address such shortcomings. The need for this research emerges not just from the physical, social, and economic cost of a disaster, but the significant economic investment of governments in establishing a post-disaster inquiry. Concerns regarding the utility of royal commissions and public inquiries being used to evaluate and review disasters, raises questions over whether their recommendations and findings are producing results that offer value for money and whether sufficient learnings are occurring from disasters. It is pertinent that this thesis examines post-disaster royal commissions and whether their recommendations, when implemented, offer value for money. While governments continue to see value in appointing ad hoc, independent inquiries, because of their capacity to gather information, views, and evidence as a basis for formulating their recommendations, they fail to address concerns over whether

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<sup>7</sup> The Victorian Country Fire Authority, its roles and its responsibilities were established by the *Country Fire Authority Act 1958 (Vic)*.

they offer value for money, contribute to decreasing attention, and public favourability towards post-disaster inquiries.

This thesis examines three recent post-disaster royal commissions that have evaluated catastrophic disasters. Differences in decision-making across these royal commissions are highlighted and discussed to assist in evaluating the continued utility of the approach. This thesis will add to the growing body of literature on disaster responses, royal commissions, and the use of post-disaster inquiries. The development of this, through comparative analysis of similar approaches adopted by differing jurisdictions, will allow this thesis to determine where more appropriate choices might be made.

The main rationale for this thesis is to address the emergence of questions raised throughout relevant literature on the utility of post-disaster inquiries. While accepting that challenges exist with the approach, it asserts that attention must be directed towards addressing how the current approach can be improved, especially if these developments contribute to it being an effective lesson-learning utility.

## **Significance of the study**

A comparative case study of three recent post-disaster royal commissions, established in different jurisdictions allows for an overview of how these can more effectively be conducted. While the recent experience of these disasters and post-disaster royal commissions limits the long-term conclusions of this thesis, trends in the use of post-disaster inquiries, specifically in the impacts of decision-making throughout their establishment, investigation, and post-investigation stages illustrates both similarities and differences in the approach. When these are discussed, further understandings of how and why post-disaster inquiries are used, as well as how these can be improved are identified.

This thesis focuses on how post-disaster inquiries contribute to improvements to disaster preparedness and responses, where an emphasis is placed on lesson-learning and the implementation of recommendations. The continued experience of catastrophic disasters and their impacts illustrates a requirement to ensure that responses mitigate the potential risks of future events. The importance of a post-disaster inquiry should not be underplayed. Studying its appropriateness is significant not just to further understandings of post-disaster inquiries, but also disaster responses. The continued occurrence, experience, and impact of disasters, which cause substantial destruction, injuries, and fatalities outlines the need to examine how governments respond to catastrophic events, specifically whether they ensure that lessons are learned. As little scholarship exists from political scientists about disaster responses, the findings of this thesis have ramification for broader scholarship in this area, but specifically with regards to post-disaster inquiries. Rather than looking towards alternatives to the approach, this thesis identifies a gap in the knowledge associated with the use of post-disaster inquiries and highlights how

these can be conducted more effectively in future. It defines how post-disaster inquiries can be more effectively undertaken so that governments, communities, and relevant stakeholders learn lessons from the experience of a disaster and are better prepared for their future occurrence. Examining this problem addresses scholarly gaps associated with the use of post-disaster inquiries and royal commissions throughout Australia.

Further understandings of the experience of catastrophic disasters throughout Australia, their impacts, and the way governments respond are required, especially as they continue to cause the loss of life and destruction to property, infrastructure, and the environment. This thesis examines various post-disaster inquiries to provide a comprehensive analysis of recent responses to catastrophic disasters. It adds to a developing body of knowledge on royal commissions and public inquiries, disasters, and disaster responses. Further research into these areas contributes to relevant developments of knowledge about disasters, notably about how improvements to policies regarding their experience and impact can occur.

## **Research questions**

The primary research question of this thesis is: *to what degree do post-disaster inquiries, as a method for evaluating and reviewing a disaster, ensure lesson-learning through the implementation of recommendations?* Secondary to this, a series of sub-questions will be examined:

- i. What impact do decisions throughout the establishment, investigation, and post-investigation stages of a post-disaster inquiry have on the effectiveness of its recommendations in improving disaster preparedness and responses?
- ii. How do post-disaster inquiries contribute to governments, relevant stakeholders, and communities learning from mistakes and avoiding repeated failures?
- iii. How do we ensure sustained political and policy salience in a post-disaster inquiry, its recommendations, and in their implementation?
- iv. What is necessary for a post-disaster inquiry to achieve a continuity in knowledge and to limit policy regress?
- v. What signifies the beginning and end of a post-disaster inquiry, and what impact does this have on responsibility and accountability throughout its entire process?

## **Central aims of the study**

The main aim of the research is to examine, evaluate, and review the role of post-disaster inquiries in informing lesson-learning that improves disaster preparedness and responses. This thesis seeks to understand how and where post-disaster inquiries can be improved through an analysis of decision-making throughout the establishment, investigation, and post-investigation stages of the Teague, Holmes, and Cooper inquiries. This analysis illustrates why post-disaster inquiries continue to be appointed over other approaches in response to catastrophic disasters.

The impact of salience and attention, or a lack of it throughout a post-disaster inquiry's various stages will be discussed to address how this impacts the effectiveness of implementing its recommendations. Decision-making regarding the design of its terms of reference, appointment of commissioners, choices of consultation methods, who is consulted and who is excluded, and in the consideration, evaluation, and implementation of recommendations are all influential to a post-disaster inquiry's perceived success.

Beyond addressing its sub-questions, this thesis presents a series of recommendations. These are aimed at improving the use of post-disaster inquiries, and illustrate how questions or concerns over their continued usefulness and appropriateness can be addressed.

## Overview of the study

This thesis consists of eight chapters. In the following chapter, its focus is situated within the scholarly literature. The literature review assists in illustrating a gap that this thesis will fill. It looks at existing contributions from academics, participants, and commentators from a variety of relevant scholarly and professional backgrounds. This chapter outlines scholarly understandings associated with the use of royal commissions in Australia, especially post-disaster inquiries. Central to this investigation of relevant literature, due to the various reasons motivating the establishment of a royal commission, is a focus on policy identification, learning, evaluation, and implementation. The literature review also focuses on scholarly contributions within relevant policy literature, such as Charles Lindblom's (1959) the science of 'muddling through', Thomas Birkland (2015) introduction to the policy process, Anthony Downs' (1972) issue-attention cycle, John Kingdon's (2003) policy window theory, Baumgartner and Jones' (1993, 2002, 2012) application of the 'punctuated equilibrium' hypothesis, Emil Posavac's (2010) study on evaluation, Jeffrey Pressman and Aaron Wildavsky's (1984) study on implementation, Paul Sabatier (1986) and Richard Midland's (1995) studies on 'bottom-up' and 'top-down' approaches to implementation, Michael Lasky's (1988) 'street-level bureaucrat' hypothesis, Richard Rose (1991) article on 'lesson-drawing', Colin Bennett and Michael Howlett (1992) study on policy learning, and David Dolowitz and David Marsh's (1996, 2000) discussions of lesson-learning and policy transfer. The inclusion of this assists in developing a narrative for this thesis, and positions it within the academic discipline of political science, more specifically the study is positioned within the sub-discipline of policy studies.<sup>8</sup>

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<sup>8</sup> Policy studies is a widely recognised sub-area of the political science discipline. Throughout the thesis the terms are used interchangeably, with use of the latter assisting in positioning this study beyond the policy studies sub-area.

Chapter 3 outlines the research methodology adopted in this thesis. It discusses the methodological issues, research design, philosophical foundations, case study context, and the theoretical and procedural descriptions of instruments used in this thesis to collect, present, and analyse data. The three chosen case studies (Teague Inquiry; Holmes Inquiry; and Cooper Inquiry) are briefly introduced, as are the reasons for their inclusion and the chosen measure for an inquiry's success. Lastly, this chapter outlines the appropriateness and usefulness of the adopted methodological framework.

Chapters 4, 5, and 6 present the empirical evidence used to conduct its analysis. The Teague Inquiry (Chapter 4), Holmes Inquiry (Chapter 5), and Cooper Inquiry (Chapter 6) are each introduced and outlined. These chapters are similarly produced, with each providing background information on the specific disaster type, the disaster that caused the investigation, and the relevant post-disaster royal commission. The information provided in each chapter emerges from the interim and final reports of the post-disaster royal commissions, as well as the related government, media, and public coverage of the disaster and associated investigation. Analysis of reports, discussion papers, submissions, and hearings will be included to highlight whether the presence or absence of lesson identification and learning opportunities occurs, specifically whether the approach enabled such prospects. The presentation of information throughout these three chapters will assist in the development and presentation of the analysis that follows.

Chapter 7 presents the comparative analysis. It is here that the key findings of this thesis relating to the capacity of a post-disaster royal commission to identify and inform lesson-learning, and to achieve lasting policy and procedural change through the implementation and evaluation of recommendations, are discussed. Throughout this chapter the purpose, usefulness, and success of the three outlined post-disaster royal commissions are assessed. Key components and differences in decision-making throughout each cases establishment, investigation, and post-investigation phases are compared. Throughout this chapter, a post-disaster royal commission's impact on disaster policy development, which is traditionally achieved incrementally, along with the advancement of knowledge is reviewed. It also outlines the valuable role that post-disaster inquiries, most notably royal commissions can continue to have as a method of response to Australia's most catastrophic disasters.

Chapter 8 concludes this thesis and provides a series of recommendations relating to the discussion in its analysis. A series of recommendations are outlined to ensure effective post-disaster inquiries can be undertaken. These recommendations aim to provide a framework for where improvements can be made to post-disaster royal commissions that will reinforce or improve lesson-learning. The conclusion emphasises the influential role that post-disaster inquiries perform in Australia, specifically because of the increasing frequency of natural disasters and their impacts. It will highlight that for the approach to be used more effectively, post-disaster inquiries need to be reformed and continually evaluated to ensure

their success in both identifying and learning lessons that improve disaster preparedness and responses. The conclusion also addresses the idea of ‘punctuated equilibrium’, specifically how the occurrence of a disaster changes the urgency for related policy to be developed. It observes that post-disaster inquiries provide an appropriate and rational mechanism for meeting demands for change after a disaster, but that politically expedient reasons for their appointment, as well as the influence of these on the investigation and recommendations must be managed. The importance of salience and attention, not just to the implementation of a post-disaster inquiry’s recommendations, but throughout its various stages is also stressed. Finally, this chapter outlines areas where further research on post-disaster inquiries, disaster policy, emergency management, and royal commissions is required.



# **CHAPTER 2**

## **LITERATURE REVIEW**

Scholarly contributions from policy analysts and political scientists regarding responses to disasters have failed to adequately encourage an increase in awareness and developments in practices that improve preparedness and responses. Analysis of post-disaster inquiries and their use, questions their role in evaluating and learning from disasters. Public policy and associated studies can assist in illustrating the role of post-disaster inquiries. This chapter outlines existing scholarly contributions on disasters, especially from a public policy perspective, so as to provide an overview of the relevant literature. It will review contributions to the study of disasters, the use of royal commissions, and the policy literature on lesson-learning, policy transfer, evaluation, and implementation. The purpose of this chapter is to position and establish a context and foundation for this thesis within the political science and public policy discipline.

Throughout this chapter, various contributions from commentators and academics are its primary focus, but where available it also includes information from inquiries, their members, and staff. This chapter reviews, classifies, and evaluates the relevant existing bodies of literature to outline and identify major findings, points of contention, and important gaps in our knowledge. It also identifies gaps in knowledge about post-disaster inquiries.

This chapter examines the study of disasters within political science, but more specifically within policy studies. An examination of contributions from political and social scientists and commentators will be used to illustrate their influence on the study of disasters. One finding from the literature is that lesson-learning, notably through the implementation, and evaluation of recommendations, occur best when disaster responses follow a rational policy process. This chapter then looks at the use of royal commissions. This discussion initially focuses on the reasons for their establishment and use before providing an outline of the reasons why scholarly attention towards post-disaster inquiries is limited. Lastly, this chapter discusses relevant policy literature. Specific attention is directed towards literature focusing on policy learning, agenda-setting, evaluation, and implementation.

### **Disasters and public policy**

The study of disasters in the natural sciences has a long history, but studies in the social sciences, especially in public policy have not been as forthcoming. Attention on disasters increases during and after their occurrence. Mark Pelling and Kathleen Dill (2008: 2) point to the growth in interest associated with the experience of Hurricane Mitch in 1998. Further to this, Pelling and Dill (2008: 2)

suggest that the experience of the 2004 Indian Ocean earthquake and tsunami, Hurricane Katrina in 2005, the 2006 South Asian earthquake, the 2011 Tohoku earthquake and tsunami, and 2010 the Haiti earthquake have all strengthened interest in disaster studies. The increasing experience of catastrophic disasters has amplified the level of attention from scholars, commentators, and experts. Australia's recent experience of bushfires, earthquakes, and floods have led to a broader scholarly interest in the study of disasters.

To illustrate the role of public policy in the study of disasters, this section identifies different scholarly contributions, which attempt to understand what a disaster entails through a discussion centred on contributions from the social sciences. This section focuses on political impacts and roles before, during, and after a disaster. Specific attention is directed towards scholarship from the field of emergency management, with a focus on improving disaster preparedness and responses, especially through policies and procedures. The following section highlights the need for greater attention on post-disaster inquiries, specifically from political scientists who specialise in the policy process.

### *What is a Disaster?*

The earliest definition of 'what is a disaster' can be traced back to sociologist LT Carr (1932: 211), who defined it as where the "collapse of cultural protections" occurs. Since then, many further definitions of a disaster have been proposed, with a specific attention focused around "an actual hazard or event and its cost in terms of loss of life or damage to property" (Winkworth 2007: 14). A series of other attempts have been made to define what a disaster entails. In 1961, Charles Fritz (1961: 202) defined a disaster as an event that is:

concentrated in time and space, in which a society or a relatively self-sufficient subdivision of a society, undergoes severe danger and incurs such losses to its members and physical appurtenances that the social structure is disrupted and the fulfilment of all or some of essential function of the society is prevented.

The contribution of Fritz is widely accepted and definitions or understandings that have followed have used this as its base. For example, Henry Fischer (2003: 93) develops Fritz's definition, but questions whether it is important for researchers in defining it to consider what is a disaster or "what are the various circumstances under which communities and societies suddenly diverge from partially or totally adhering to their proscribed social structure and temporarily or permanently replace it with an alternative?" Quarantelli (1985: 50) argues that a disaster is where the demand for action exceeds the capacity to respond. In doing so, he notes that many social aspects of disasters are absent from previous definitions (Quarantelli 1985). This suggests that understandings of disasters, especially the study of them, need collaborative multi-discipline research.

A key distinction for conceptualising a disaster is whether it is considered a ‘natural’ or ‘human-made’/technological disaster (Dynes and Drabek 1994: 6). Disasters were, until the work of Dynes and Drabek (1994: 6-7) viewed as “acts of God”, as opposed to “acts of men [*sic*]”. The dangers of this distinction are outlined through discussions of industrialisation and technological advancements, because these present solutions to problems created by disasters, but also lead to a whole new set of problems (Dynes and Drabek 1994: 6).

A limited capacity for controlling disasters by both social and natural scientists is recognised. However, the social, economic, environmental, developmental, and/or political consequences for the communities directly and indirectly affected are observed (Handmer and Dovers 2013). In determining an understanding of what a disaster is, it is noted that not all these spheres may necessarily be impacted, but that the consequences tend to be similar regardless of a disaster’s origin. Underlining the social disruption caused by a disaster, Joanne Nigg (1996: 5) illustrates them as occurring:

when the built and social environments are so disrupted that the resources of the social system are overwhelmed and the system is unable to meet the demands placed on it for goods and services that are routinely expected by its citizens.

Studies and understandings of disasters need also recognise those impacted. Those impacted may be communities, individuals, stakeholders, and other relevant actors, as outlined by Richard Gist and Bernard Lubin (1999: 352), who note that a disaster is:

inherently defined by its relationship to community - a cataclysm qualifies as a disaster only to the extent that it overwhelms the capacity of a community to contain and control its consequences. It is not at all, then, a collection of individual experiences [...].

Gail Winkworth (2007) reinforces the need for definitions and understandings of disasters to illustrate the role of actors. She reinforces that while a disaster can and does impact an individual, it does not necessarily happen to individuals (Winkworth 2007: 15). In doing so, the collective stress of a disaster on the community can be identified and outlined.

Despite a distinction between natural and human-induced disasters, they are, as Handmer and Dover (2013) recognise, influenced by human actions, incentives, and decisions. Contributions from natural scientists can assist social scientists in understanding what a disaster entails, specifically in relation to knowledge of their origin, nature, size, speed of onset and other physical attributes (Handmer and Dovers 2013). However, it is important to recognise that the impact of a disaster goes beyond the environment and level of destruction it creates. The impact on individuals and communities, whether psychologically or sociologically, and the economic effects for these groups and other stakeholders may be significant. Central to an understanding and answer to the question of ‘what is a disaster’, are the

responses that assist with its prevention or mitigation. Accordingly, governments must look to the policies and procedures in place that manage and dictate their preparedness and responses.

### *Emergency Management*

A lack of sustained interest and an underestimation of disasters and their impacts by governments, communities, and various stakeholders, has always been a roadblock to the potential development of emergency management policy literature (Perry and Mushkatel 1984). The lack of sustained interest is as Nancy Grant (1996) points out, a ramification of the low probability of a disaster occurring and a general reluctance from governments to impose limitations on private property, bear the costs of disaster preparedness, and an altogether ambivalent approach towards disaster mitigation. Despite variances in the use of terms between disaster management, crisis management, and emergency management, the study adopts the latter, because it is the most commonly used term in Australian practice and literature.

Understandings of emergency management differ from those of a disaster. Disasters have already been outlined as a sudden event or failure, where great damage, loss, or destruction occurs. Emergency management is instead, the development of procedures through which communities and relevant stakeholders reduce vulnerability to disasters and learn how to cope with their occurrence (Drabek 1991: xvii). The aim of emergency management is not to eliminate or reduce the threat of disasters, instead it focuses on establishing a plan to decrease their impact. Through immediate and constant attention to an issue, emergency management is the study and undertaking of action that prepares for the experience of a disaster. It is central to the study of disaster preparedness and responses that emergency management research focuses on policy development and procedures.

Australia's national government has an emergency management program that focuses heavily on using education to reduce vulnerability to disasters and increase community resilience (McEntire and Mathis 2007: 183). The Australian Emergency Management Agency does not respond directly to emergencies, rather as a Commonwealth Government agency, it provides resources, finances, training, and research (Australian Emergency Management 2005). In Australia, responsibility for emergency management is delegated to individual states and territories. Paul Gabriel (2002: 296) illustrates that Australia's focus has only recently shifted to measures of prevention and mitigation.

Further afield, Britton and Clark (2000: 146) note that a taskforce was established in the 1990s due to perceived vulnerabilities in New Zealand's emergency management structure. It recommended that the government move "more quickly and farther into areas of professional development" (Britton and Clark 2000: 146). The roles and responsibilities of the primary actors involved in emergency management were redefined, and the Ministry for Civil Defence Emergency Management was established. The involvement of volunteer agencies and the community was increased as part of a new system that

developed principles on an ‘all-hazards’ approach. As part of the approach, local governments were given the authority to handle emergencies, provided they had the capability (Britton and Clark 2000: 147).

In comparison to others, Gary Kreps (1991) offers an indifferent view on emergency management, suggesting it extend beyond a ‘response’ function, by arguing that it is not only a concern for first responders. This view neglects developments in the practice of dealing with disasters, and recognises the need for an expansion of ideas and approaches to emergency management. It assumes that issues associated with emergency management are of low importance to most states and communities (Wolensky and Wolensky 1990). This suggests that there has been a lack of lesson-learning from similar events that have previously occurred. The lack of critical thinking and engagement with methods of improving procedures and approaches may be deemed not just irresponsible, but a risk to life and property.

Despite limited attention to understandings of emergency management, it is discussed in-depth by Deborah Thomas and Dennis Mileti (2003: 17), who outline the differences between understandings of emergency management over time. Emergency management is interdisciplinary because it requires knowledge drawn from various scholarly fields (Mileti and Thomas 2003: 17). Debates over the position of emergency management as a discipline continue, but it is a significant issue for political scientists, specifically in terms of policy development relating to mitigation, preparedness, response, and recovery. Emergency management is also seen as connected to the “experience of urban and regional planning over the last several decades” (Mileti and Thomas 2003: 17). Mileti and Thomas (2003: 17) summarise its place in scholarship:

[r]egardless of one’s perspective, those who work in emergency/hazards management today must break down traditional academic and professional boundaries. This is not a simple task when designing curricula or proposing programs. The professionalization of emergency/hazards management will continue to result in training and degree programs with various emphases and specializations.

The need for a collaborative cross-discipline understanding of emergency management and the various associated fields results from its diverse nature. Neil Britton (1999) outlines how emergency management has grown to be associated with issues of environmental stewardship, community planning, and sustainable development. Increasingly, emergency management is an integral part of an inclusive community decision-making process. Robert Schneider (2002) illustrates that further analysis is being devoted to establishing a broader understanding of community planning and development activities. Schneider (2002) argues for a renewed focus on the development of sustainable communities and that this places emergency management at the very heart of community planning.

A desire to mitigate and prevent the impacts of a disaster, and the varied effects of its consequences, is why this research is best viewed through a public policy lens from within the discipline of political science. This lens is favoured due to the essential aspects of preparedness, responses, and recovery, which is reliant on issues of policy development, implementation, and evaluation. These are most often dictated by government or other powerful relevant stakeholders. The capacity of actors in the management of disasters is dependent on what Stephen Bell and Andrew Hindmoor (2009: 16-18) outline as the allocation of resources. This debate centres on the role and capacity for action of various actors, including the state, the private sector, the bureaucracy, and the community.

Public policy is the authoritative allocation of values (Easton 1953: 129). Power in the policy process dictates the resources and actions undertaken by government. Indeed, 'governance' focuses on where decision-making power rests or how it is distributed among actors (Bell and Hindmoor 2009:1; Rhodes 2007: 1246-1247). Prominent debates centre on the state-centric and society-centric approaches to studying governance (Bell and Hindmoor 2009). These understandings differ on their acceptance of the continued role of the state in decision-making, specifically over the governance resources of various policy participants. The experience of a disaster is still typically associated with calls for a state-led response to the event. Government action is paired with responsibilities attributed to other relevant actors from a variety of backgrounds. In this research state action is viewed as central to mitigation or prevention of future disasters and their impacts. Accordingly, it adopts a state-centric understanding of governance, with governments central to the allocation of resources, but stresses the collaborative role of other actors, notably the private sector, community actors, and the bureaucracy (see Bell and Hindmoor 2009 for an outline of this position). Understanding the various contributions of a range of actors is important for further developing understandings of the need for shared responsibility in emergency management.

Handmer and Dovers (2013) assert that plans, arrangements, and structures are established to engage the normal operations of government, voluntary and private agencies in a comprehensive and coordinated way to respond to the whole spectrum of an emergency's needs. They also illustrate how emergency managers are most comfortable with a narrowly defined conception of planning for a set of reactive, anticipatory, and planned responses to specific hazards, threats, or emergencies (Handmer and Dovers 2013). As such, emergency management has a focus on the following two areas: how to establish a decision-making process before the next damaging disaster occurs; and how to envision and enact the changes that can be made in a post-disaster environment to decrease the community's vulnerability to future catastrophic events (Handmer and Dovers 2013).

The collaborative qualities of emergency management cause its greatest complexities, because every new actor or disaster changes its nature. To fully understand political aspects of a disaster it is important

to review the limited, but available public policy literature on responding to, recovering from, and preparing for disasters.

### *Disaster Preparedness, Response, and Recovery*

Gabriel (2003) recognises the stages of preparedness, response, and recovery as independent of each other, but that each involves planning, managing, training, exercising, creating, monitoring, evaluating, and improving activities to ensure effective coordination in emergency situations. However, central to each is ensuring a transfer of lessons and knowledge between communities, governments, and other relevant stakeholders.

Preparing for a disaster includes being able to adequately respond and recover from its occurrence and requires a collaborative whole-of-community approach (Prosser and Peters 2010). Handmer and Dovers (2013: 161) discuss responsibility being shared in response to disasters. They outline the evolving issue of responsibility in Victorian disaster responses, specifically addressing policy changes resulting from bushfires (Handmer and Dovers 2013: 161). Cronstedt (2002: 10-13) explains how engaged resilient communities will be developed through partnerships between government and not-for profit agencies, business, and industry, local communities, individuals, and households. Gabriel (2003) summarises that disaster preparedness is achieved through engaging the community in planning, capability development, training, exercises, building community resilience, and risk communication.

Recovery from an emergency or disaster is the process of restoring an affected area to its prior level of functioning (Lindell 2013: 812). As part of this process, assistance is provided to disaster impacted communities to manage recovery, specifically using external technical, physical, and financial assistance methods. Recovery efforts involve rebuilding destroyed property, re-employment, and the repair of essential infrastructure. Efforts are made to ‘build back better’, with a goal to reduce risks inherent in a community and its infrastructure assets.

Decisions in response to a disaster must involve actions that aim to reduce the threat to life, property, and the environment following the beginning of an emergency and/or crisis (Gabriel 2003). Procedures to achieve this must mobilise various and relevant emergency services, whether volunteer or employed. Throughout each of these processes, Australian state and territory authorities have a constitutional responsibility for coordinating and planning disaster responses. The development of disaster resilience and a resilient community, requires all levels of government to be aware of their responsibilities and how they can manage associated risks (Prosser and Peters 2013: 8). Policies and procedures are put in place by governments in response to previous experiences of disasters and various relevant actors support their development and implementation. Since 1939, it is royal commissions and public inquiries

that have been the most commonly utilised tools for governments to respond to, evaluate, and learn from the experience of disasters.

## **Royal commissions: An overview of the literature**

The community emphasis placed on public inquiries is variable, but scholarly attention outlines the meaningful role they perform in Australia's political system and public life (Weller 1994; Prasser 2006; Banks 2013; Prasser and Tracey 2014). Public inquiries have a long history in the Westminster system tracing back to the eleventh century when William the Conqueror appointed a team to inspect his newly acquired kingdom (Prasser 2006: 40). Scott Prasser (2006: 40) notes that British colonisation saw the use of royal commissions adopted along with other Westminster traditions of government throughout Australia, New Zealand, and Canada. Differences have resulted from the various political climates that have evolved. Despite these differences, inquiries are still considered an important investigative tool for governments on a wide range of important public policy issues. Prasser and Tracey (2014: 2-3) highlight royal commissions as independent ad hoc bodies designed to uncover advice on a policy matter or to investigate an event or action. Central to a royal commission's effectiveness is their establishment by the executive arm of government.

This section reviews scholarly contributions on royal commissions, especially post-disaster inquiries. It looks at the literature relating to what royal commissions entail. It examines this literature in relation to the three stages of a royal commission: instigation, investigation, and post-investigation. Following this, the limited, but emerging collection of scholarship considering post-disaster inquiries is introduced and discussed. The aim of this is to illustrate the policy problems associated with the continued use of post-disaster inquiries. Specific attention is given to the emerging challenges of learning and sharing lessons through post-disaster inquiries.

### *What is a Royal Commission?*

Royal commissions are independent temporary ad hoc investigative bodies that are appointed by executive governments with an aim of finding the underlying cause of an issue, problem, or historical event, or to reveal answers on how to address it. A royal commission's members are drawn from outside government and its processes are public, because of a desire for community input and the public release of its reports and findings (Prasser 2012). A royal commission is established under legislation that provides it with wide-ranging coercive powers of investigation, but also affords protection to witnesses and its members (Prasser and Tracey 2014b: 1).



Croucher (2014: 14) highlights the reasons for the use of the term ‘royal’, and points to the 2009 Australian Law Reform Commission’s (ALRC) review of the *Royal Commissions Act 1902 (Cth)* recommending that due to reasons of status and perceptions of independence, the term should continue to be used. As a highly-regarded institution of executive government, the appointment of a royal commission is respected because of its independence and ability to address an issue from a legal and adversarial perspective (Croucher 2014). As such, it reflects on, provides advice to, or investigates the issue in question. This is achieved through independent commissioners, drawn from outside government, who seek community input through public processes (Croucher 2014: 18-19).

Despite an inquiry’s independence, the commissioners chosen to form a royal commission are generally chosen by executive government through an opaque process (Rowe and McAllister 2006: 105-106). Independent inquiries assist with a royal commission reaching salient recommendations and instigating policy change, because throughout its investigation Rowe and McAllister (2006: 107) saw the independence of commissioners as a central concern of the public. Beyond the appointment of commissioners, it is often difficult to gauge what is expected from them throughout the royal commission and its investigation. The ideal result from a commissioner’s involvement in a royal commission is that they contribute to something new or distinctive in the policy process (Rowe and McAllister 2006: 108). The absence of this can challenge a royal commission’s effectiveness and value. With this goal in mind, commissioners throughout an inquiry must ensure their recommendations are achievable, so that their value is recognised, because their take-up is a yardstick against which to judge their value (Rowe and McAllister 2006: 108).

Sulitzeanu-Kenan (2006: 264) defines public inquiries as ad hoc institutions established for a specific task, which is external to the executive arm of government, but established by a government or a minister, to publicly investigate an issue or event. Demands for royal commissions after disasters emerge from public desire for something to be done, especially from impacted families, businesses, or communities. Recent reasons for the appointment of royal commissions include their contributions to community healing (due to the focus on reconciliation and blame), because delineating accountability is central to their investigation and findings. Buckley and O’Nolan (2013: 22) confirm that this change has occurred due to a desire for public inquiries to satisfy community demands that a matter is independently and publicly investigated. Indeed, one of a royal commission’s key characteristics is its independence. A commissioner’s independence is significant, because public inquiries occur when there is a demand that “something must be done” (Buckley and O’Nolan 2013: 22). This involves the evaluation of a government’s performance, something that can only occur if its commissioners are independent and if its reports are made public.

A royal commission has three distinct stages, each important to addressing its terms of reference. They begin with the establishment stage, where the development of its terms of reference and appointment of commissioners occurs (Prasser 2006: 135-138). Following this the investigation stage takes place, which is where a royal commission gathers information through submissions, hearings, and consultation to frame its findings, conclusions, and recommendations (Prasser 2006: 138-143). Lastly, the post-investigation stage follows, and this is where the presentation and release of its report occurs (Prasser 2006: 143-146). The final report includes the recommendations and findings of the royal commission's investigation, and following its release these are evaluated, and where appropriate implemented by a government or relevant stakeholders (Prasser 2006: 143-146). While the first two stages are mentioned regularly in scholarly contributions, the post-investigation is rarely referred to.

Traditional scholarly contributions on royal commissions illustrate the post-investigation stage as where the publication of the final report and consideration of recommendations by the executive arm of government takes place (Weller 1994: 4-5; Prasser 2006: 15; Croucher 2014: 19-20). However, the post-investigation stage needs to be more significantly linked to the process of a public inquiry, because the implementation of its recommendations is an important measure of its effectiveness (Croucher 2014: 19). Despite this, Croucher (2014: 19-20) notes that governments have no obligation to implement or even provide updates on the implementation of a royal commission's recommendations. This research identifies a gap in the literature between the relationship of the post-investigation phase with the establishment and investigation stages. For implementation to be most effective it needs to be considered throughout the development of recommendations and for this reason, this thesis views a royal commission from its establishment to post-investigation stage as a process in and of itself.

Buckley and O'Nolan (2013) stress the important check that royal commissions have on the power of government and state agencies, especially how the approach scrutinises public policies, legislation, resources, and the performance of individuals. A royal commission aims to add a layer of accountability and transparency to the management of an issue (Buckley and O'Nolan 2013: 22). As such, they continue to be an important source for evidence and analysis in the shaping and creation of public policy.

Since federation, 133 royal commissions have been established by Australia's Commonwealth Government, their aim was "to resolve a contentious issue, explain a catastrophic event, uncover corruption or provide the substance of new public policy" (Prasser and Tracey 2014b: 2). This number is significantly outnumbered by the more than 600 public inquiries established since federation by ministerial authority and not under the same statute.

The establishment of a public inquiry is viewed as a decisive act of government because it presents the impression that they are not just reacting and doing something, but that they are trying to learn from the past. Despite this, questions are raised over the appropriateness of public inquiries in certain situations. After conducting an inquiry into the 15 April 1989 Hillsborough Stadium disaster, Lord Justice Taylor (1990: 4), the chairperson, reflected:

[t]hat it was allowed to happen, despite all the accumulated wisdom of so many previous reports and guidelines must indicate that the lessons of past disasters and the recommendations following them had not been taken sufficiently to heart [...] there is no point in holding inquiries or publishing guidance unless the recommendations are followed diligently. That must be the first lesson.

Taylor's reflection highlights the failure for governments and communities to listen to, learn from, and implement recommendations of inquiries. This is a specific problem when the impact or consequences of the issue under investigation continue to be experienced.

Accordingly, reinterpretations and new understandings of accountability in a royal commission impact its investigation (Dwyer 2015). Holmes (2010: 388) reflects on the Teague Inquiry asserts that "in the case of a catastrophe, the instinct is to blame the government for poor planning and blame those individual public servants who had to 'manage' the crisis." He suggests that this diverts attention from "more fundamental truths" that allow for different and possibly more appropriate responses in future (Holmes 2010: 389). This 'win or lose' adversarial approach to seeking truths is increasingly becoming the focus of royal commissions, especially when reconciliation and healing are central to their investigation.

A royal commission undertakes a legal and inquisitorial form of analysis for either investigatory or policy advisory reasons (Prasser 2011: 4). Inquisitorial inquiries are appointed to investigate allegations of maladministration, impropriety, or a catastrophic event, be it a natural disaster or accident (Prasser 2011: 4). They focus on discovering the truth about an allegation or incident, and this is where its powers of investigation are most utilised. Policy advisory inquiries aim to provide advice, information, research, and/or options to government about a policy problem. This form of inquiry has become increasingly less common and of the 38 royal commissions appointed between 1979 and 2012, only three adopted a policy advisory approach (Prasser 2012).

Concerns associated with the cost of royal commissions arise from issues associated with their impact and roles (Prasser 2006: 3). Questions over whether their use provides government with value for money, is a further reason to examine their role (Prasser 2012). Examining the cost effectiveness of royal commissions is necessary because of the dependency on the government that appoints them to

fully fund them. This requirement should encourage the public and academics to further understand royal commissions and ensure fiscal responsibility in their use.

An ideal royal commission conforms to the high expectations that the public bestows on it, but also satisfies policy development and learning objectives. Increasingly, the appointment of royal commissions is seen as being politically motivated, as due to their associated high level of prestige, governments seek to control the agenda through their establishment (Hogan-Doran 2016). Political involvement in the appointment and design of a royal commission overrides other motives and may cause unintended consequences to flow from its investigation, recommendations, and conclusions. In attempting to maintain control of the policy area and any potential issues of liability, governments tend to fear unexpected outcomes, the failure to achieve desired outcomes, poor performance, delay, and extra cost, extended period of policy inactivity, and loss of control of the policy agenda (Hogan-Doran 2016).

Ultimately, the idea that royal commissions are fact-finding instruments is challenged by Kieran Walshe (2003: 24), who describes them as “slow and unwieldy mechanisms for investigation.” He argues that greater scrutiny is required of royal commissions:

[i]nquiry reports tend to be taken at face value and read with considerable respect, and their findings often carry considerable weight. Even so, the methodology of inquiries deserves more discussion and might be more contested than it generally is [...] (Walshe 2003: 18).

Walshe argues that public inquiries, specifically royal commissions need to uphold expected standards of qualitative research, which includes critical evaluation to determine their success or appropriateness. Instead, in the publication, and conclusion of a public inquiry, it is assumed that its findings are transferred and generalised without critical consideration (Walshe 2003).

Dyer (1999) devalues royal commissions, through his assertions that they present factually incorrect accounts, are delayed, and generate a great deal of controversy. This results from claims that they “are value-laden, prosecutorial, contain errors of fact, [and are] selective and inaccurate” (Dyer 1999: 558). Accordingly, royal commissions have faced questions over their neutrality and the impartiality of their processes (Elliott and McGuinness 2002).

Andrew Brown (2000: 45, 48) asserts that findings from inquiries should be considered as rhetorical constructs despite the inquiry’s story or narrative being presented in a manner that encourages readers to consider it to be truthful, plausible, and authoritative. He is concerned with the biases of inquiries and contends that as exercises in power, they “stifle potentially competing or contradictory plotlines” (Brown 2000: 67). Walshe (2003) was less concerned about the narrative of an inquiry’s report or the

interest and attention they receive, instead focusing on how it is unlikely to be read in full by those it will impact most due to their length and often excessively long list of recommendations. He questions the effectiveness of inquiries as a tool for learning (Walshe 2003). Burgess (2011) argues that learning lessons from events is the role of inquiries, but this perception assumes that the issue being reviewed is both predictable and avoidable, and that the inquiry prevents the reoccurrence of a similar negative event. This view undermines the central randomness and uncontrollability of natural disasters and royal commissions.

Due to its ability to uncover maladministration or corruption, the appointment of a royal commission is reserved only for when all other bodies are deemed inappropriate for handling issues of high political salience and sensitivity (Prasser 2012). However, their complexities and the nature of royal commissions mean they remain an “institution of last resort”, only adopted by governments when all other bodies are deemed insufficient for handling issues of high political salience and sensitivity (Prasser 2006: 252).

Judging the success of a royal commission or public inquiry has long been speculated within literature and Rowe and McAllister (2006: 111) assert that “no simple ‘measure’ of value is appropriate, in terms of numbers of recommendations and proportion accepted compared to cost and time, or any other elaborate formula”, nor do they suggest that short-term assessments of inquiries are appropriate. As the appointment of a royal commission opens the possibility of the unexpected or the unwanted a judgement of its value cannot always be based off the up-take of its recommendations. Despite the lack of a central and consistent mechanism for judging a royal commissions success, their independence remains durable, especially as this is central to them making a “significant and meaningful contributions to the policy process and more importantly, to different policy outcomes” (Rowe and McAllister 2006: 111). For this reason, further research of royal commissions and public inquiries is necessary, especially if these studies examine how judgements of their success can be made, with this thesis arguing that their success surrounds the achievement of lesson-learning through the implementation of their recommendations.

### *Post-disaster Inquiries*

Wettenhall (2014: 97) asserts that after the occurrence of a catastrophic disaster, Australian governments have little choice but to establish some form of inquiry, with their failure to do so leaving them “perceived as utterly derelict.” Australia’s short electoral cycles, at both state, and federal level, challenge the ability for governments to respond efficiently and effectively to a disaster, especially as disaster will be established by one government, but its recommendations are received by a new government. The establishment of a post-disaster inquiry provides the perception that executive

governments are reacting to a disaster, because the public expects these to be undertaken with rational objectives. A reliance on the best available evidence to make decisions in the public interest is why governments should utilise public inquiries (Prasser and Tracey 2014c: 133).

The adversarial inquiry model continues to be used as a response to disasters, but there are recurring themes and inconsistent recommendations that have led to questions over its usefulness, especially as the public expects that each new process will prevent the next disaster from occurring. In 2007, when discussing the inevitability of disasters in Australia and the continued tendency to adopt post-disaster inquiries to review and learn from these, a report of the *2007 National Bushfire Forum* from O'Loughlin (2007: 47) argues that:

[W]e need a new process for inquiries, one that is effective, and fair. Some of the coronial processes have become tortuous and unproductive. The Stretton [inquiry] into the 1939 fire [in Victoria] was completed in three months... [Prolonged inquiries] is an excessive time[frame] and the nature of the inquiries is likely to discourage people from pursuing careers in fire and land management.

Despite this position, it is undeniable that post-disaster inquiries are influential instruments that provide recommendations and conclusions for governments that aim to mitigate or prevent the reoccurrence of a disaster's impact. An inquiry's recommendations result from an extensive review and analysis of the collected submissions and public hearings that are undertaken (Wettenhall 2014: 94). Despite differences in the outcomes, duration, and investigation of different post-disaster inquiries, there is evidence that illustrates that lessons are being learned.

Boin *et al.* (2005: 8) illustrate that a disruptive event:

[s]ets in motion extensive follow-up reporting, investigations by political forums, as well as civil, and criminal judicial proceedings. It is not uncommon for public officials and agencies to be singled out as the responsible actors for prevention, preparedness, and response to the crisis at hand. The crisis aftermath then turns into a morality play. Leaders must defend themselves against seemingly incontrovertible evidence of their incompetence, ignorance, or insensitivity.

They highlight an emerging trend within the use of post-disaster inquiries, which is a growing focus and attention towards issues of blame and accountability. They go on to discuss:

[t]wo types of reaction modes compete for dominance in the public arena. The debate may highlight the need to learn from past mistakes and induce organizations and policies to improve accordingly. Or it may zoom in on questions of responsibility and guilt (Boin *et al.* 2005: 101).

Mitigating or preventing the reoccurrence of a similar catastrophic events and their avoidable impacts should be the central aim of a post-disaster inquiry. The challenge in achieving this is finding a balance

between the two modes outlined by Boin *et al.* (2005:101). Challenging the achievement of this is the increased attention towards issues of blame and accountability.

Through the continued use of post-disaster inquiries for bushfire disasters, identified lessons have assisted with improving future hazard preparedness, prevention, and mitigation. Thomas Griffiths (2012: 166, 178) reflects on the 1939 Stretton Inquiry after the experience of the bushfires and observes its “enduring wisdom”, because of its report’s accessibility and widely-held regard. This analysis is furthered with his reflection on the lessons identified and learned from the Stretton Inquiry’s recommendations (Griffiths 2012: 166, 178).

The recommendations and conclusions of post-disaster inquiries have contributed to lessons in the following areas: the mechanisms of a bushfire attack; house design and the impact of the surrounding environment on house protection; and the influence of human decisions before, during and after a hazard (Eburn and Dovers 2015: 501). Post-disaster inquiries are important instruments in developing disaster resilience, in recognising areas for future research, and have both intentionally and inadvertently contributed to the improved resilience and preparedness of communities. The 1939 Stretton Inquiry provided recommendations that prompted the 1944 establishment of the CFA and the introduction of the *Forest Act 1958 (VIC)*, which facilitated the Forests Commission to gain complete control of fire suppression and prevention on Victoria’s public land (DEPI 2014; Wettenhall 2014: 102-104). Each of these lessons have impacted the future direction of fire management in Victoria and around Australia. This has included improved practices, procedures, and policies associated with bushfire management and mitigation, even if this has been revised through the reviews future inquiries.

Other inquiries demonstrate the existence of future lesson-learning, with those that followed the 1967 Hobart fires, 1983 Ash Wednesday bushfires, and the 2003 Canberra bushfires credited as identifying how the three key mechanisms of a fire attack impacts urban environments (Blanchi and Leonard 2005: 3-5). The inquiry following the 1967 Hobart bushfires identified that:

[...] most of the people who died in their homes [...] were either very old and infirm or [...] [had some] physical disability. [...] [H]alf of the people who died while escaping from their homes [...] [which] did not catch on fire (Leonard and McArthur 1999).

The inquiry recommended that staying in one’s house and defending one’s property was an appropriate survival method. The Ash Wednesday inquiry illustrated how ember attacks are the predominant mechanism in house ignition and that combustible elements immediately around the house contribute to the risk of its ignition (Miller 1984). As such, a recommendation that was supported by the Ash Wednesday Bushfire Review Committee concluded that “people who chose to stay and defend their home or property should be allowed to do so”, especially if individuals were able bodied and knew what

to do (Miller 1984: 137). All Australian states later accepted this position as it became central to the Australasian Fire Authorities Council's (2012: 5) policy platform:

With proper preparation, most buildings can be successfully defended from bushfire. People need to prepare their properties so that they can be defended when bushfire threatens. They need to plan and defend them, or plan to leave early.

Despite acceptance of this position, future inquiries, including the Teague Inquiry have continued to review the policy and have identified areas for improvement (Teague 2009a: 187-204). What the lessons from these post-disaster inquiries highlight, is that the approach has informed lesson-learning and their continued use holds currency.

Contrary to this, Eburn and Dovers (2015: 11) conclude that the current quasi-judicial post-disaster review system is failing. They suggest conducting post-event reviews in a different way, highlighting the need to better prepare the community for the inevitable impact of the next overwhelming event (Eburn and Dovers 2015: 11). According to this view, three areas should be reconsidered to better prepare communities for natural disasters. The first involves a focus on learning from both positive and negative aspects of a disaster, but also from other relevant areas, including the aviation and medical industries (Eburn and Dovers 2015: 11). This is said to offer appropriate alternatives and ensure a greater balance in safety and accountability in emergency management. Secondly, Eburn and Dovers (2015) propose a revision to the format of inquiries. And thirdly, they pinpoint a need for an inquiry's recommendations, conclusions, and summaries to be deciphered in a more constructive and appropriate way to ensure that effective learning occurs (Eburn and Dovers 2015: 11).

Some of the recent literature on post-disaster inquiries has introduced the changed nature of coronial inquiries, specifically the impact this has when investigating a disaster (Freckelton and Ranson 2006). The evolution of coronial inquiries was recognised after the 2003 Canberra firestorm, where its role had expanded to allow the Coroner to conduct a "more wide-ranging inquiry and comment on many facets of the administrative process involved in events causing death" (Wettenhall 2014: 104). Despite the emerging presence, powers, and attention towards coronial inquests, it falls beyond the scope of this research, but is recognised as an area deserving of further attention.

The continued use of post-disaster inquiries raises substantive questions for governments and policy makers in ensuring that mistakes and impacts are mitigated or prevented during the occurrence of future disasters. These questions challenge the effectiveness, appropriateness, and usefulness of post-disaster inquiries. Challenges associated with the use of royal commissions centre on: the powers of their investigation, the lack of review of findings, their increasing cost, and the limitations of their independence (Prasser 2012). While these challenges are referenced in this thesis, it is the nature and impact of a disaster that make post-disaster royal commissions unique and deserving of greater scholarly



attention. Perhaps royal commissions in and of themselves are not the primary problem, instead it may be the broader electoral system, short electoral cycles, and recent high frequency of leadership changes that challenge the effectiveness of lesson-learning through the implementation of their recommendations. The change of leadership or governing party is applicable here due to the potential loss of institutional knowledge such change entails.

This thesis asserts that the policy problems associated with, or used to understand post-disaster royal commissions centre around four key policy areas. These are: policy learning (because lessons are seemingly not being learned), policy implementation (because of a disconnect between the investigation and post-investigation stages), evaluation (because this is one of the roles that a post-disaster inquiry performs), and agenda-setting, which is about creating a climate suitable for change. Below, I provide an overview of these areas of the public policy literature as they are relevant for analysing public inquiries.

## **Policy literature**

Lindblom (1959) asserts that political science is concerned with the relationships between knowledge, policymaking, and power. Public policy or policy studies, is a sub-area of political science, and is concerned with governmental processes and their outcomes. It is a complex process involving a range of actors with competing interests. Deborah Stone (1997) defines public policy as the rational attempt to attain objectives and suggests it is about communities trying to achieve something together. She pinpoints the primary objectives of policy as equity, efficiency, security, liberty, and the community, but notes that there are quite frequently trade-offs involved in achieving these goals (Stone 1997). Thomas Birkland (2015: 203) provides a more detailed description of public policy, when he describes it as a “statement of government of what it intends to do or not to do, such as laws, regulation, ruling, decision, or order or a combination of these.” Everett (2003: 65) observes that “there is little doubt that effective policymaking requires good process” and no matter what approach or stages are favoured there remains a need for policy development to be part of a process, where all decisions are considered at every stage. Birkland (2015: 203) outlines that “the lack a definitive statement of policy may be evidence of an implicit policy.” In emergency management there is an unknown in policy development, as such there needs to be an understanding of the highly complex stages of this process, with consideration of these and the end goal occurring at every stage. Thus, public policy refers to the actions of governments.

Throughout its discussion on post-disaster inquiries as lesson-learning instruments of executive government, challenges associated with policy creation illustrate the need for a good and considered process that is likely to be incremental. In public policy incrementalism refers to the method of change

through which many small policy changes are ratified over time to make a larger policy change (Lindblom 1959). Lindblom (1959) develops this position to chart a middle ground between the rational actor model and bounded rationality. This was because individual perspectives of long-term goal driven policy rationality were perceived as adequate.

Before outlining the relevant policy literature in more detail, it is worth noting the impact that a royal commission has on our understanding of policy development processes, specifically the policy cycle. Royal commissions complicate orthodox ideas and understandings of the policy cycle (see Althaus, Bridgman and Davis 2015 for an outline of the policy cycle), because they essentially conduct evaluation earlier in the process than conventionally occurs. Royal commissions contribute to the policy formulation process, especially impacting agenda-setting, policy evaluation, and policy implementation stages. The relationships between their various stages and policy learning in a public inquiry are discussed later in this chapter.

### *Agenda Setting*

The scholarship on agenda-setting ranges from John Kingdon's focus on policy elites to Anthony Downs' observation about the significant, but often short-lived influence of public attention (Downs 1972; Kingdon 2003). The understanding of agenda-setting in relation to post-disaster inquiries is important, because it not only helps explain why the approach is adopted, but also why issues fall off the agenda during their investigation. Royal commissions are also tools utilised to push issues off the agenda or make it appear as if the government is taking the interest seriously. For instance, recent royal commissions established by Julia Gillard (*The Royal Commission into Institutional Responses to Child Sexual Abuse*) and Malcolm Turnbull (*Royal Commission into the Protection and Detention of Children in the Northern Territory*), were both established to investigate contentious issues, where inaction would have negatively impacted the respective government.

Definitions of agenda-setting describe it as a dynamic process "in which changes in media coverage lead to or cause subsequent changes in problem awareness of issues" (Brosius and Kepplinger 1990: 190). Its origins can be seen within media studies. Media coverage after a disaster summarises its scale and significance. After their occurrence, governments are often left with little choice but to establish some form of inquiry. The more catastrophic the disaster, the more prestigious the form of inquiry required. Considerations of agenda-setting dictate that a significant event, such as a disaster sets the agenda and this requires government action to avoid the complaint and negative perceptions associated with inaction. However, consideration must be given as to whether attention towards a disaster retreats throughout the process of its investigation, especially regarding what the impact will be on the implementation of recommendations and acceptance of findings and lessons.

In understanding scholarly research on agenda-setting, it is important to recognise that the average individual cannot directly govern, but that over time, through a process of cooperation and participation in government procedures, they can exert some influence (Schattschneider 1975). As such, an individual citizen does not establish the policy agenda, but instead they make “a general, overall judgment about the broad tendency of government and the general results of public policy” (Schattschneider 1969: 76). Schattschneider (1975: 1-18) makes a series of observations about conflict and how it leads to the destruction of or change to policy subsystems. He explains that “what happens in politics depends on the way in which people are divided into factions, parties, groups, classes, etc. The outcome of the game of politics depends on which of a multitude of possible conflicts gains the dominant position” (Schattschneider 1975: 60).

Kingdon’s (1995: 142) theory on agenda-setting asserts that “normally, before a subject can attain a solid position on a decision agenda, a viable alternative [solution] is available for decision makers to consider.” He notes that newly created or changed policies occur during relatively short “windows of opportunity”, through which conditions are only temporarily established through increased attention and action (Kingdon 1995).

Baumgartner and Jones (1993: 31) suggest a change in venue, whether institutional or policy results in the scope of the debate widening, which often precedes new issues emerging onto the agenda. They develop upon the work of Schattschneider and describe how political entrepreneurs strategically manage policy images to lead to the expansion of conflict, new advocates being mobilised, and long-standing institutional structures being undone (Baumgartner and Jones 1993: 36-37).

Baumgartner and Jones (1993) outline that dramatic policy change is associated with increased governmental attention to an issue. This includes increased attention within a policymaking arena from those that had previously not been involved. Schattschneider (1960) provides one of the earliest studies of agenda-setting and contends that the “scope of conflict”, which is closely connected with issue definition, remains the “supreme instrument of power”. Issues rise and fall off the agenda without a significant change in how they are understood and this is not dependent on whether a government considers them, but on the occurrence of a ‘focus event’ (Birkland 1998). Studies of agenda-setting and of the policy agenda are almost always concerned with issue identification and policy change.

Downs (1972) looks at agenda-setting differently and focuses on the influence of citizens in developing a model that he referred to as “the issue-attention cycle.” Through an environmental policy case study, Downs outlines the various phases of public interest throughout the process of policy development. Initially he reflects on the pre-problem phase, where he highlights that public attention is focused on an undesirable social condition (Downs 1972). The process then moves to its second phase, which is

focused on broad and intense interests in solving problems (Downs 1972). Downs (1972) posits a third phase, where the cost associated with the development of a solution are recognised. Lastly, a decline in enthusiasm for resolving an issue due to the expense related to doing so is discussed by Downs (1972) as part of his “issue-attention cycle”.

Downs’ ‘issue-attention cycle’ is discussed throughout this thesis to illustrate attention towards a disaster and related post-disaster inquiries. It is deemed most appropriate because of different levels of public interest throughout a post-disaster inquiry. High levels of public interest are associated with its establishment, because the event under investigation has usually just occurred. While attention will decrease throughout its investigation, specifically when topics of low significance or interest to the public are discussed. The memory of the disaster heavily fuels these earlier stages. However, as this memory decreases, so too do desires for change. This often leads to questions over whether the current approach is a cost-effective method for undertaking reviews after a disaster to improve disaster preparedness and responses, because little recognised learning occurs.

Central to scholarship on agenda-setting and its formation, is that problem definition is an important element in determining the success of an issue reaching the relevant policy agenda. Deborah Stone (1997) contributes to understandings of problem definition where she challenges the rational-policy-analysis model, which argues that policy decisions are made through a series of rational steps. In formulating an alternative, she discusses a fundamental paradox of policy formation where “[p]roblem definition is a matter of representation because the description of a situation is a portrayal from only one of many points of view” (Stone 1997: 133). In doing so, issues are portrayed with relevance to a course of action that is favoured by the relevant actor, whether that is individuals, interest groups, or government agencies. The role of language and various actors, as part of a wider policy process has a substantive impact on agenda-setting and the definition of a problem.

Placing less of an emphasis than Stone on problem definition, Kingdon (2003) recognises it as a tactic employed by policy elites. Baumgartner and Jones (1993: 29) outline its role as contributing to the creation of competitive images of a complex process that is “at the heart of the political battle”, but beyond the control of an individual political actor. Kingdon’s (2003) main argument centres on the idea that for major policy change to occur three streams, ‘problems, proposals, and politics’, need to overlap to create a ‘window of opportunity’ where collective attention towards a problem and a solution occur simultaneously. Considine (1994: 138) recognises the contribution of Kingdon's framework when he states that:

[a] great deal of the policy developed by governments emerges as a response or reaction to issues over which they have limited control. Little is known of the way the policy agenda is formed, how items come to find their priority listing, nor why

some things appear to move rapidly up the agenda and into action, while others languish at the edge of attention. Kingdon's (1984) study provides one of the few insights into this process.

Kingdon's framework assists in understanding why attention to a disaster is so high after it occurs. It helps recognise why governments use a royal commission, or other form of public inquiry, so as to appear as if it is acting. When it finally reports its findings, the public pressure for action is not as significant, because the pressure placing the disaster on the agenda has passed.

Birkland (2006: 19) argue that the occurrence of a catastrophic disaster acts a 'focusing event that increases attention towards policy, preparedness, and responses to the event'. The attention that 'focusing events' gains increases the potential for lesson learning to occur (Birkland 2006: 19). Therefore, the only events or disasters that garner attention or become focusing events are those that overwhelm the emergency management systems in place. A focusing event causes an increase in discussions of policy ideas, as such it is important that governments act and meet this expectation. As a political instrument of executive government, the use of post-disaster inquiries does achieve policy change, but Birkland (2006: 20) suggests that the attention garnered by a focusing event will decrease as memory of the event fades. In this thesis, I am concerned with sustained salience throughout the establishment and investigation stages of a post-disaster inquiry, as well as in the implementation of its recommendations. This thesis will look at what impact the process of a post-disaster inquiry, which follows the occurrence of a focusing event has on the implementation of its recommendations, specifically regarding the identification and learning of lessons.

## *Policy Evaluation*

Public inquiries, especially royal commissions, are executive government tools established to evaluate a specific issue, with investigations aiming to identify where improvements to relevant policies and procedures can occur. Post-disaster inquiries provide an evaluation of a disaster and focus on how responses and preparedness can be improved.

The evaluation stage follows the process of input being turned into output through implementation. Policy evaluation continues to suffer from insufficient attention, particularly as we fail to recognise how vital a stage of the policy process it is. Despite this, recent scholarship has focused on policy evaluation, with Emil Posavac (2010: 1) illustrating that "the practice of evaluating one's own efforts is as natural as breathing." Posavac (2010: 2) views evaluation as a:

[...] methodology to learn the depth and extent of need for a human service and whether the service is sufficiently intensive to meet the unmet needs identified, and the degree to which the service is offered as planned and actually does help people in need at a reasonable cost without unacceptable side effects.

CH Weiss (1998: 4) describes evaluation as the “systematic assessment of the operation and/or outcomes of a program or policy, compared to a set of explicit or implicit standards, as a means of contributing to the improvement of the program or policy”. It is important that throughout the development of policies and after their implementation that evaluation is considered. Hogwood and Gunn (1984: 219) illustrate the need for evaluation:

[i]f we lived in a world of complete certainty and perfect administration there would be no need for evaluation: having selected the best option and put it into operation we would know in advance what its effects would be.

Central to evaluation is having access to the right information, so that informed decisions are made. Questions are asked about the effectiveness of evaluation, especially when the political system and decisions it aims to review, are highly complex and political in nature (Taylor and Balloch 2005).

Evaluation generates data for improved analysis that assists policy learning (Althaus, Bridgman and Davis 2014: 191). Criteria for evaluation should be built into the original policy or program’s design. Accordingly, evaluation is not just a tool for new policies or those deemed to have failed, because it is also appropriate and necessary to evaluate policies that are deemed effective and successful (Althaus, Bridgman and Davis 2014: 191, 194). Through evaluating effective policies, reasons for their success may be determined and considered for future policy, thus allowing for their transfer between jurisdictions. When evaluating disasters and responses to these it is important that what went right is also discussed. Such discussions will lead to effective responses and practices being shared with other jurisdictions.

Evaluation is not simply a cost versus benefits analysis of a policy and its performance. As such, other methods, or aims of evaluation deserve critical consideration. Evaluation is centrally dependent on political and media judgements of a policy. Political and media judgements are dependent on the interests of involved actors (Kraft and Furlong 2012: 103), which includes those they represent.

Evaluation of policy is important in areas that are uncertain or that are highly complex, because these issues are difficult for governments. This demonstrates the need for critical and effective evaluation after a disaster.

The objectives and processes of committees or inquiries are understood through proactive evaluation (Owens 2006). Owen (2006: 18) recognises the epistemological basis for proactive evaluation through the assumption that “what is already known should influence action.” Those tasked with evaluation connect existing knowledge and research from a range of stakeholders including academics, administrators, program staff, and end-users. Undertaking this form of evaluation represents an approach that values the perspectives of practitioners in relation to how they understand the matters

under review. The evaluation of this material involves a synthesis of the mainly qualitative information that is gathered (Owen 2006: 61).

Governments are required to be more efficient and effective, and face increasing pressures from the electorate to best utilise their resources (O'Faircheallaigh and Ryan 1992: 1-2). Different programs and policy areas require alternative evaluation techniques. This results in limitations on the effectiveness of committees as evaluating bodies, especially when the following are present: differing levels of interest in an inquiry topic within a committee; the potential for disagreement within a committee regarding evidence, conclusions, or recommendations; varying degrees of knowledge, technical expertise, or independence compared to professional practitioners; a lack of access to relevant data or an incapacity to perform particular types of data analysis; and/or obedience to political imperatives and allegiances (Cash 2007). Any of these factors may influence committee reports and limit the potential for effective evaluation, particularly when compared to evaluation undertaken by a skilled team of policy evaluators.

Evaluation in the form of a public inquiry has increasingly been utilised after a disaster to review the event, preparedness for it, and responses to it, as well as emergency management practices. A review of the policy implementation and evaluation literature displays little engagement with public inquiries by relevant policy evaluation focused scholars. The limited contributions on public inquiries and royal commissions are dominated by Prasser (2005, 2006, 2011, 2012), Prasser and Tracey (2014a, 2014b, 2014c, 2014e), and Weller (1994). Despite their valuable contributions, there is a need for further engagement from political scientists with public inquiries and royal commissions, especially by those who understand key policymaking, implementing, and evaluation concepts, as well as those who investigate disasters.

### *Policy Implementation*

The process of policy implementation is where government decisions are translated into action and outcomes (Barrett 2004: 251). Prior to the publication of Jeffrey Pressman and Aaron Wildavsky's landmark *Implementation* text, the stage of implementation was a largely ignored phase of policymaking. Pressman and Wildavsky's (1984) *Implementation* is considered a central work for understanding the concept, especially as it has contributed to political scientists and experts viewing implementation as an influential stage of the process.

Pressman and Wildavsky (1984: 1-2) view implementation as the stage of policymaking where inputs are turned into outputs. Implementation is not only viewed as a tool for employing the recommendations of an evaluation, but also as a mechanism for establishing change (Pressman and Wildavsky 1984: 1-2). Mammalian and Sabatier (1983: 5-6) view policy implementation as where government decisions

are turned into outcomes, and describe it as “the carrying out of a basic policy decision, usually incorporated in a statute but can be in [the] form of important executive orders or court decisions.”

Eugene Bardach (2012: 43) addresses the adverse outcomes of policy implementation and recognises the following consequences: long delays; the capture of program or policy benefits by a relatively underserving and unintended constituency; excessive budgetary or administrative costs; scandal from fraud, waste and abuse that undermines political support and embarrasses supporters; and administrative complexities that leave citizens uncertain as to what benefits are available or what regulations must be complied with. Bardach (1980) points to the failure for decisions to result in predicted outcomes, which has a major impact on the perception of policy as successful. Other political scientists share this perception, such as Pressman and Wildavsky (1984), who highlight the pitfalls of joint action, even if all participants support a policy.

Lindblom pinpoints the process of implementation as where failure in the design of policy is recognised. He proceeds to outline some of the most common traps associated with the implementation of government policies (Lindblom 1980). Lindblom (1980:65) notes that these traps contribute to a greater awareness of policy failure and include: incomplete specifications; inappropriate agencies; conflicting objectives; incentive failures; conflicting directives; limited competence; inadequate administrative resources; communication failures; policy settings; and instrument choice. These traps assist in showcasing implementation as unpredictable and difficult to manage, thus highlighting the need for it to be considered throughout every stage of the policy process (Lindblom 1980: 65).

Hogwood and Gunn (1984) assess policy failure as occurring when a policy’s objective is not met. The objectives of a policy are set at the beginning of its development and are often altered by the interests and persuasion of actors throughout its development. Until the stage of implementation, the impact of decisions during the policy process are unknown. Hogwood and Gunn (1984: 196-97) reassert that implementation should be considered at all stages of the policy process to minimise the impact and occurrence of unintended consequences.

Hal Colebatch (2009) recognises that policy implementation fails when: there is an ambiguous original decision; the policy is given low priority; insufficient time and resources are allocated to the development and implementation of a policy; the target group are hard to reach; and the expected impact is not clear. His view of policy development notes that it is not a straightforward or simple process, but a continually evolving one that requires consultation between actors and consideration of end goals at every stage (Colebatch 2006).

Paul Sabatier (1986) outlines two approaches to understanding implementation: the ‘top-down’ and the ‘bottom-up’ methods. These approaches are reinforced in further scholarship, even those that do not



directly reference the terms (Elmore 1979: 602; Maitland 1995). The nature of the policy and the environment where it is being implemented dictates whether a 'top-down' or 'bottom-up' approach to policy implementation is more ideally suited.

The 'top-down' approach to implementation is where policy decisions are made centrally by authoritative actors who attempt to produce "desired effects" (Maitland 1995: 146). The success of the 'top-down' approach to implementation is said to involve a clear and consistent set of policy goals, minimising the number of actors involved, limiting the degree of change needed, and the support of an institution to ensure the goals of policy makers are upheld (Maitland 1995:147). The 'top-down' approach argues that decision-making rests with central actors, who design, develop, and implement policy from a distance (Maitland 1995). Maitland (1995) supports this view and sees implementation as an administrative process.

Schofield (2001) advocates that the 'bottom-up' approach supports the inclusion of actors with local expertise and knowledge of implementation. These ideas rely on the scholarship of Michael Lipsky (1980: 188), who argues in favour of the involvement of 'street-level bureaucrats', highlighting the requirement for participation from actors with firsthand knowledge of a specific policy area. 'Street-level bureaucrats' or 'street-level bureaucracy', is where decision-makers operate with direct contact with members of the general public, specifically those who the policy affects. Through interaction, communication, and direct contact with the general public, street-level bureaucrats are able to act as liaisons between government policy-makers and citizens. Their participation in the policy process, especially if they are a driving force in the identification of an issue, the development of a policy, and in the implementation of a policy supports the 'bottom-up' approach.

Bottom-up theorists argue that policy is made at the local level; Matland (1995: 146) argues that target groups or service deliverers are central to this. Scholars such as Hjern and Hull (1982), Hanf (1982), Barrett and Fudge (1981), and Elmore (1979) criticise top-down theorists for neglecting actors beyond those that they see as central to decision-making. Hanf, Hjern, and Porter (1978) develop the bottom-up approach by stressing that policy implementation is more likely to be successful when networks of actors that are involved in the service delivery of policy in a relevant area are asked about their goals, strategies, activities, and contacts. The 'bottom-up' approach uses this information to develop a networking technique to identify the local, regional, and national actors involved in the planning, financing, and execution of relevant governmental and non-governmental policies and programmes. Accordingly, Sabatier (2005: 23) asserts that the approach provides a mechanism for ideas and knowledge to be transferred from local actors and decision-makers up to the top policy-makers in both the public and private sectors. When the 'bottom-up' approach is adopted, it can be used to examine policy areas with greater uncertainty (Matland 1995: 155). This is contrary to the 'top-down' approach,

which views local actors as obstructions to implementation. However, the bottom-up approach is observed as embracing the expertise of local implementers (Schofield 2001).

Despite this thesis suggesting that the ‘bottom-up’ approach to implementation is appropriate for understanding royal commissions, the institution of executive government does also exhibit elements of the ‘top-down’ approach to policy implementation. Even though significant consultation occurs throughout a royal commission, results of their investigations lead to decisions over its implementation being made by governments. In emergency management, there is a strong need for what Lipsky (1980) describes as ‘street-level bureaucrats’ who have firsthand knowledge and expertise in dealing with disasters. They offer experience and knowledge of what has worked in the past, but most importantly, a firsthand account of the conditions that are faced in a disaster. The approach forms part of the ‘bottom-up’ understanding of policy implementation. This approach premises that when more expertise is available to policymakers the process is improved, but stresses that caution should be exercised over the involvement of too many actors. This is due to the complex structure of interactions, which suggests implementing actors are inherently difficult to control (Kiviniemi 1986: 253).

The ‘bottom-up’ approach to implementation is favoured by this thesis, because it focuses on centrally located actors who devise and implement government programmes, and thus they contain firsthand knowledge and expertise of the implementing environment. The basis for the ‘bottom-up’ approach to implementation is that the actors and their goals, strategies, and activities are understood, because it will describe what factors have caused difficulty in reaching stated goals (Matland 1995). As disasters provide a high level of conflict and uncertainty, this thesis advocates in favour of the ‘bottom-up’ approach, because it will ensure that greater knowledge is available in decision-making. This is important due to a lack of consensus about the means available to achieve a desired goal. In this thesis, the bottom-up’ approach to implementation is supported for adoption in post-disaster inquiries, because it supports the gathering of knowledge and expertise to help develop recommendations and conclusions, through an institution that is designed and adopted for that purpose. Thus, it negates challenges to the bottom-up approach being used in areas of high conflict, especially when a lack of consensus exists, because it is used to gather information and then make an informed decision.

In relation to the preference for the ‘top-down’ or ‘bottom-up’ approaches, Sabatier (1986) argues that neither fully explain nor comprehends policy implementation. He contends that implementation is most successful when it includes the involvement of an assortment of actors, whose participation is dependent on a policy’s objectives and direction (Sabatier 1986). Sabatier (1986) recognises the importance of street-level bureaucrats, but also stresses the imperative role of central actors with expertise and knowledge of policymaking and implementation. This position adopted by Sabatier (1986) reflects the use of post-disaster inquiries adopting a ‘top-down’ approach to implementation. This study recognises

a need for further expertise and for the involvement of knowledgeable actors in the implementation of any policy development, especially the recommendations of a post-disaster inquiry. This illustrates a need to utilise Lipsky's 'street-level bureaucrats' theory (1980), but also stresses a mixture of independent authoritative decision-making and input from those responsible for policy implementation. This is relevant because recent post-disaster inquiries stress that adequate responses and preparedness for a disaster is dependent upon shared responsibility between all actors (McLennan and Handmer 2014: 5)

In the years following Pressman and Wildavsky's landmark *Implementation* (1984) book a significant boost in the number of scholarly contributions on policy implementation occurred, but by the late 1980s, the literature on it had dwindled. Michael Hill (1997: 375) suggests that the scholarship was 'yesterday's issue' by the late 1980s. While recent scholarly attention has again focused on policy implementation, it is the marquee text *Implementation* that remains a central piece of literature on the subject. Further scholarly attention emerges from scholars Hill and Hupe (2014: 1-2), who reflect on the complexities associated with implementation. They contend that if we want to explain what happens during the implementation phase, we need to understand that a lack of attention to this issue can result in a lack of political control (Hill and Hupe 2014: 2). Implementation can be recognised as even more difficult in highly contentious policy areas, such as emergency management, where there is a plethora of variables and unknowns.

A common trend in implementation literature is a focus on "what happens between policy expectations and perceived policy results" (DeLeon 1999: 314-15). Mazmanian and Sabatier (1983: 20-1) provide one of the most influential and detailed definitions of implementation and demonstrate how they believe it can be successful:

[i]mplementation is the carrying out of a basic policy decision, usually incorporated in a statute but which can also take the form of important executive orders or court decisions. Ideally, that decision identifies the problem(s) to be addressed, stipulates the objective(s) to be pursued, and in a variety of ways, 'structures' the implementation process.

Implementation is a complicated process, where much can, and does go wrong. Hill and Hupe (2014: 7) summarise that "the longer the chain of causality and the more numerous the reciprocal relationships among the links the more complex implementation becomes."

DeLeon (1999: 350) summarises the study of implementation as "little more than a comparison of the expected versus the achieved." While not entirely accurate, it provides an image of the concept of implementation failure and the need to consider it, especially as the "implementing actors are inherently difficult to control" (Kiviniemi 1986: 256). In emergency management, it is difficult for policymakers

to create legislation aimed at minimising the impact of disasters and to limit the potentially devastating consequences for the individual and community.

## *Policy Learning*

Political science, specifically policy studies are becoming increasingly concerned with processes of lesson-learning in the development of policy. Early scholarly contributions from Karl Deutsch (1966), Herbert Simon (1947; 1957) as well as Hugh Heclo (1974) and Lindblom (1959) focus on issues of lesson-learning. Interest in and attention to policy learning within policy studies continues to increase; as is seen through the contributions of Richard Rose (1991), Bennett and Howlett (1992), Dolowitz and Marsh (1996, 2000), Benson and Jordan (2011), and Carroll and Common (2013).

Sabatier (1993: 19) defines policy learning as “a relatively enduring alteration of thought or behavioural intentions that are concerned with the attainment (or revision) of the precepts of a policy belief system.” This definition surpasses an information-based view of learning, and considers alterations in frames, values, and meanings. Despite considering these, policy learning notes that changes in values, frames and meanings may have very little to do with truth.

Policy learning refers to a ‘change in thinking’, not any change in thinking but a structured and conscious change in thinking about a specific policy issue. Learning is about knowledge and an important distinction exists between it and information. Information is considered as a message that contains structured data, while knowledge is information that is meaningful to knowledgeable agents (Fleck 1997: 384). As policy is designed and implemented by a range of organisations, policy learning is a form of collective learning.

Despite being about how organisations advance and develop capabilities that are consistent with their objectives, organisational learning is dependent on some form of individual learning, because of the individuals that make up its membership (Argyris and Schon 1978; Fiol and Lyles 1985; Senge 1990). Birkland (2006: 9) stresses that participants in policymaking are engaged in learning. Our capacity to learn is limited by our ability to gather and analyse all relevant information (Birkland 2006: 9). People and the organisations within which they make decisions are bounded rationally, which means that they seek to make rational decisions within the limits of their information gathering and analysis capacity (Simon 1957). This model of decision-making asserts that people are built to problem solve; “that is, people want to solve problems and make better decisions. It also contains the ability for people to make, correct, and learn from errors” (Birkland 2006: 9). The goal of policy learning is to effect change in a tangible way, with the most palpable evidence of policy change being new legislation or regulation (Birkland 2009: 9). These events lead to efforts to learn, thus contributing to the learning process, which assumes some level of rationality among actors and within institutions.

Bennett and Howlett (1992: 289) assert that governments or members of the political administration learn through adopting new policy instruments or by changing existing policy programs. Heclo (1974) viewed policy learning as a mixture of social, political, and economic contextual changes, but reiterated that actors strategically interact through a competition for power. Sabatier (1988: 130) progresses Heclo's view in stating that:

the effect of policy oriented learning on the broader process of policy changes by analyzing the manner in which elites from different advocacy coalitions gradually alter their belief systems over time, partially as a result of formal policy analysis and trial and error learning.

This focus on policy learning demonstrates a shift towards policy instruments, but it needs to be part of a complete framework on advocacy coalitions, which are central to public policy analysis (Sabatier 1993; Sabatier and Weible, 2007; Weible, Sabatier, and McQueen, 2009). Despite this, scholarly contributions have been vague about the different types of learning.

Policy learning is widely referred to in the public policy literature either as 'policy learning' or 'instrumental learning'. A major focus of the policy learning literature is on policy diffusion and transfer. Diffusion refers to the impact of interdependent states or regions on policy adoption (Braun and Gilardi 2006; Gilardi, 2013). Four forms of policy diffusion are outlined here. These are coercion, competition, learning, and emulation. Policy transfer literature considers how policies are transferred between one country, state, or region to another (Dolowitz and Marsh 1996, 2000). The literature focuses on actors with responsibility for transfer and their ability to enable or constrain policy learning (Benson and Jordan 2011). Contemporary literature on policy transfer includes Richard Rose's (1991) article on 'lesson-drawing'. Rose (1991) saw lesson-drawing as the search for new knowledge, where the aim is to make improvements within a jurisdictional region. Accordingly, when demand for change arises, policy makers, and governments seek out solutions. Rose (1991: 5-6) notes that this process is dependent on:

a subjective definition of proximity, upon epistemic communities, which link experts together, functional interdependence between governments, and the authority of intergovernmental institutions [...].

Due to policy learnings dependency on implementation, it is a highly political process (Rose 1993).

Dolowitz and Marsh (1996: 344) incorporate understandings of lesson-learning in their work on policy transfer. Dolowitz and Marsh (2000:6) engage with a specific overview of the policy transfer process, specifically reflecting on the following questions: "Why do actors engage in policy transfer? Who are the key actors involved in the policy transfers process? What is transferred? From where are the lessons drawn? What are the different degrees of transfer?". Benson and Jordan (2011: 367) note several elements that impact policy transfer. They recognise path dependencies, institutional constraints, and

ideological differences between countries, as well as technological, economic, bureaucratic, and political factors that contribute to the constraining or enabling of policy transfer (Benson and Jordan 2011: 367).

Returning to lesson-learning, expert knowledge highlights how decision makers use scientific results to legitimise their policies, instead of finding the most suitable policy solution. Political processes can be improved through understandings of organisational behaviour, where lessons are learned from previous experiences (Bennett and Howlett 1992: 289). Peter May (1992: 339) identifies that:

[p]olitical learning entails policy advocates learning about strategies for advocating policy ideas or drawing attention to policy problems... [they emphasise] judgments about the political feasibility of policy proposals and understandings of the policy process within a given policy domain [...]

Similarly, Sabatier (1988) observes the benefits of learning within coalitions, especially how actors improve their advocacy based on previous experiences. Wildavsky (1979: 385-406) examines the prospect that if a policy goal is too politically costly to obtain, policymakers will retreat from it.

Bennett and Howlett (1992: 289) summarises four different types of learning, emerging from scholars with a focus on who learns and what is learned. Lloyd Etheredge (1985), Rose (1993), Peter Hall (1993), May (1992) and Sabatier (1987; 1988) have been central to developments in the types of learning discussed below: government learning, lesson drawing, social learning, and policy learning. Beyond their contributions, Hugh Helco (1974) suggests that “political learning” is “a governmental response to some kind of social or environmental stimulus” (Bennett and Howlett 1992: 277). This provides a valuable method for thinking about learning from a disaster, specifically as we consider these to be a focusing event that stimulates and environment for learning, which differs from traditional background to policymaking. Policy learning or lesson-learning after a disaster tends to be more prominent when the impacts of recent events were catastrophic (Clarke 2005a). May (1992: 331) stresses that key to policy studies is the fostering of policy learning as a desirable goal for policy analysis and debate, especially in the area of disasters and disaster management.

Hall (1993) outlines what he refers to as ‘social learning’ as more deliberate and measured than Heclo’s political learning. Bennett and Howlett (1992: 277) summarise Hall’s early argument of “learning as a deliberate attempt to adjust the goals or techniques of policy in the light of consequences of past policy and new information so as to better attain the ultimate objects of governance”. An understanding of ‘social learning’ relies on policy communities learning about ideas, so that a change in basic assumptions can occur. It relates to the ideas and values of the community being a driving force behind learning, especially when they affect a policy’s direction.

Etheredge's (1985) contribution to learning is built upon his question of "can governments learn?". 'Government learning' is more closely aligned to organisational theory than the other methods (Birkland 2006: 14). Bennett and Howlett (1992: 277) stress that despite being divided, "organisational theorists share knowledge accumulation and value-change within institutions and their members. Etheredge suggests these concepts apply equally to public organisations as to private firms". This organisational change is driven by state officials and is process related, which is useful in a policy process that is traditionally dominated by these actors. However, the failure for the approach, specifically to define what learning is, limits its strength and adaptability.

The most obvious form of learning is lesson drawing (Rose 1993), which differs from experimentation because it involves scanning of nearby or similar jurisdictions for policy ideas that can be applied to local situations (Birkland 2006: 15). This is an important understanding of learning, especially in a federal system, because sub-national governments draw lessons from the experience of other governments. However, due to this lesson drawing is less a theoretical method, more a description of how learning proceeds.

May's (1992) understanding of 'political learning' is developed through a literature review of previous understandings and is used to generate his theory of failure inspired learning. Through this approach to learning May argues that policy failure inspires three different kinds of learning: instrumental policy learning, social policy learning, and political learning. This model is appropriate for application in this thesis because it can be used to assert that no one type of learning can explain the full extent of learning that occurs after a catastrophic disaster. May, through his understanding of 'political learning' provides a link between learning, policy failure, and disasters.

Instrumental policy learning centres on implementation tools and techniques and is about the "viability of policy interventions or implementation designs" (Birkland 2006: 16). It is appropriate for use in this thesis because it points to the existence of policy change through legislation and regulations. The ideas that feed policy change can be explained through an analysis of media reports, records of debates, parliamentary debates, or public comments on proposed regulation (Birkland 2006: 16).

Social policy learning examines attitudes and values that shape a program and its goals, as well as the nature and appropriateness of government action (Birkland 2006: 16). It involves "learning about the social construction of a policy or program" (Birkland 2006: 16). When appropriately applied, social policy learning results in a better understanding of a policy problem, which will lead to better policy responses. The choice of policy instruments is seen to be influenced by a belief about what will work and what is desirable.

Lastly, political learning is learning that consists a “strategy for advocating a given policy idea or problem,” which leads to “more sophisticated advocacy of a policy idea or problem” (May 1992: 339). It occurs when advocates or opponents of policy change alter their strategies and tactics in response to newly available information in the political system (Birkland 2006: 17).

Learning reflects the accumulation of knowledge and is argued to lead to better policies. This thesis asserts that the attention directed towards disasters makes them a focussing event, because of the clear evidence of policy failure, which is why May’s (1992) instrumental policy learning is adopted. The adoption of this approach will help to understand how through post-disaster inquiries, evidence of policy failure can be evaluated, so that policy is improved.

Birkland (2006: 11) stresses that the difficulty in explaining how we learn or fail to learn from disasters rests in the difficulty of developing a model of learning. As this thesis adopts Sabatier’s (1987) assertion that argues organisations do not have the capacity to learn, it looks to how individuals learn. As we learn about the cognitive and information-processing limits of participants, organisations are created to capitalise on the ability for people to seek solutions together, while also overcoming the limitations of individual decision-making (Jones 2001).

Marier (2009: 1204-1205) asserts that the studying of commissions or inquiries improves discussions of policy learning for three reasons. First, it is asserted that learning does not occur without intent and that it requires some form of dissatisfaction or failure within current programs or policies (Rose 1991:10). In response to a disaster, the creation of a post-disaster inquiry signifies that authorities are not satisfied with current policies and management systems used to prepare for, respond to, and recover from such events. The establishment of a post-disaster inquiry signifies to the public that the government seeks to identify where learning can occur within current programs and policies to improve disaster preparedness and responses. Second, royal commissions, due to a “specific mandate to provide a detailed evaluation of a current program alongside a detailed analysis of what is being done abroad”, provide an opportunity for learning from within and abroad, both through retrospective and prospective analysis (Marier 2009: 1205). Finally, examinations of how the operation of royal commissions provide knowledge on how states learn can also be achieved (Marier 2009: 1205). Such considerations of learning are important in the study of royal commissions and public inquiries, because they are utilised to influence or shape the future options available to policymakers, especially when previous incarnations of policy are examined.

Elliott and McGuinness (2002: 14) propose that learning is constrained if a public inquiry focuses only on one specific instance. Walshe (2003: 21) recognises that lessons of public inquiries must be tailored and targeted to key audiences to “maximise their acceptance and uptake”. Jeffrey Stutz (2008: 519)



concludes that “the most obvious lesson [of a royal commission] is to design recommendations that are feasible and affordable”. He contends that “to be successful, inquiries should develop recommendations with input from the people and institutions that will be responsible for” their implementation (Stutz 2008:519). If public inquiries are viewed as powerful learning and evaluative tools, questions need to be raised over why governments do not accept all their recommendations.

Stutz highlights two kinds of factors that influence the implementation of a public inquiry’s recommendations. First, he recognises factors that are within the control of the inquiry, these include: feasible and affordable recommendations; implementation planning; and the absence of an undue delay in reporting (Stutz 2008). The second focuses on areas beyond the control of the inquiry, and includes: follow-up reporting arrangements; professional interest among key stakeholders; a political champion; a supportive political environment; and an issue that affects a large cohort rather than a small minority in society (Stutz 2008).

The primary reason a government appoints some form of inquiry is to enhance its knowledge capacity to deal with a particular issue (Marier 2009: 1207). Thus, an inquiry is established to facilitate learning. The independence of inquiries or royal commissions ensures that government agencies who are less invested are more likely to adopt recommendations (Marier 2009: 1207). Part of the rationale for this is that the use of a royal commission or other form of adversarial inquiry addresses many of the concerns associated with how the organisational structure of government impedes the learning process, especially when adopting a ‘learning by doing’ approach. When considerable changes are needed, such as those required to address the experience of a disaster, an inquiry is adopted to encourage learning through the exploration of better or more efficient alternatives. Royal commissions are powerful instruments of learning, but this role must be balanced against its opposing objectives, such as ensuring their work has a significant and last political legacy and the political motivations behind its appointment. This thesis considers this throughout its comparative analysis and examines how its recommendations can improve the operation and outcomes of a post-disaster inquiry.

## **Summary**

This chapter has identified scholarly trends and existing knowledge relating to several of the key areas that help frame this thesis. Literature on post-disaster inquiries, specifically royal commissions that are established in response to catastrophic disasters, was introduced and discussed. The discussion also examined the policy areas that assist in developing an understanding of their investigations.

The introduction of relevant scholarship highlights how post-disaster inquiries need to facilitate lessons that contribute to improving disaster preparedness and responses. Wettenhall (2014: 94-117) reminds

us that it takes time to recover from a natural disaster and that the use of post-disaster adversarial inquiries prolongs this timeline, but regardless can be beneficial to healing and reconciliation. Public inquiries remain the ‘go to’ method for political leaders during and directly after a crisis. For this reason and because of a lack of significant scholarly attention, further research and analysis is required to highlight the usefulness, effectiveness, and appropriateness of post-disaster inquiries in identifying and sharing lessons that improve disaster preparedness and responses.

Boin *et al.* (2005: 2-3) recognise “the search for solutions” as being not only inevitable after a disaster, but also highly complex. Accordingly, Wettenhall (2014) addresses the often-overlooked question of why post-disaster inquiries are established at all. He argues that the success of any form of inquiry is dependent on its structure. Additional research is required to better understand the implications of inquiries for policy formulation, knowledge, and leadership. The need for further research stems from natural disasters being a social as well as a natural phenomenon. Political scientists must contribute to further understandings of how we mitigate or prevent future disasters and their impacts. This should occur so that lessons are not just identified, but are learned and contribute to improved disaster responses and preparedness.

# **CHAPTER 3**

## **METHODOLOGY: ASSESSING LESSON-LEARNING CAPABILITIES OF POST-DISASTER INQUIRIES**

After illustrating existing issues and gaps within the literature on disasters, governmental responses to them, royal commissions, and post-disaster inquiries, it is important to outline how this thesis intends to adequately address these and its research aims. This thesis employs a comparative case study method that allows for “valid generalisations provided that there is a theoretical statement against which to compare the case studies” (Rhodes 1995: 56). The method is adopted because it is the most effective and appropriate method for evaluating and addressing concerns with disaster responses, including post-disaster inquiries that were outlined in the literature review (Chapter 2). This chapter outlines the rationale for the adoption of the comparative case study approach and differentiates between the chosen methods, methodology, and research design.

The comparative study undertaken in this thesis is important because of the continued and increasing frequency, threat, and impact caused by a range of disasters in Australia, but also due to a need to learn and identify lessons that ensure their impacts are mitigated or prevented in future. The need for this was identified in the literature review of this thesis, where an incremental approach to policy development, a combination of the ‘top-down’ and bottom-up approach to policy implementation, and Downs’ issue-attention cycle were discussed as relevant to the undertaking of post-disaster inquiries. In the selection of these cases, the desire to discuss decision-making in relation to these policy concepts through the establishment, investigation, and post-investigation stages of post-disaster inquiries are considered. The aim of the comparative analysis conducted by this thesis is to highlight how a successful post-disaster inquiry can occur, so that it informs lessons that shape the direction of disaster preparedness and responses in a way that the public accept and recognise.

This chapter begins by discussing the methodological ideas that underpin this study. Included in this is a discussion of how ontology and epistemology, as well as qualitative and quantitative research ideas underpin choices in the design of this thesis. Following this, its research design is outlined, where the discussion focuses on why the comparative case study method is adopted and how this is utilised. Lastly, this chapter outlines the methods utilised to conduct this research and the rationale for these. In support of its chosen approach this thesis draws on contributions from scholars, including Arend Lijphart (1971), Harry Eckstein (1975), Alexander L. George (1979), Robert Yin (2003) and John Gerring (2004). It will also cite other scholars who focus on research methods, specifically those from within the political science discipline.

## Discussion of methodology

It is important to understand the methodology that underpins the research's design, especially as it helps set up this thesis and address its key aims. Choices between different methodological tools affect the direction and outcomes of this thesis and it is important that the right balance is adopted to address its aims. These choices are discussed further throughout this section.

### *Ontology and Epistemology*

The capacity for inquiry and ability to ask questions is vital to the development of research. It allows for the interrogation and challenge of differences between, assumptions made, and the knowledge produced by specific theoretical and analytical traditions. Ontology and epistemology are two different approaches for viewing research philosophy. These concern our views of reality and theories of knowledge while also underpinning theoretical perspectives and methodologies. Ontological questions concern the nature of social and political reality, while epistemological questions relate to knowledge and the justification of this. Together, these questions are the foundation from which opposing research perspectives are built.

David Marsh and Gerry Stoker (1995; 2002; 2010), as well as Colin Hay (2002) have contributed to developing understandings of ontology and epistemology, particularly in political science. Hay (2006: 8) observes that ontology precedes epistemology and argues that “we cannot know what we are capable of knowing (epistemology) until we have settled on (a set of assumptions about) the nature of the context in which that knowledge must be acquired (ontology)”. Similarly, Blaikie (1993: 6) suggest that political ontology “refers to the claims or assumptions that an approach to social [or, by extension, political] enquiry makes about the nature of social [or political] reality—claims about what exists, what it looks like, what units make it up and how these units interact with one another.” The questions this raises, include: “[w]hat is the nature of the social and political reality to be investigated? Alternatively, what exists that we might acquire knowledge of?” (Hay 2011: 464). These questions assist in the development of the research's ontological approach, as it helps understand the political reality in which post-disaster inquiries exist, and thus assists with the development of the comparative case study method.

While ontology asks “what exists to be known?”, epistemology asks “what are the conditions of acquiring knowledge of that which exists?”. Epistemology is defined as the science or philosophy of knowledge (Hay 2011: 465-466) and discusses “the claims or assumptions about the ways in which it is possible to gain knowledge or reality” (Blaikie 1993: 6-7). Thus, it refers to how defence of a preference between competing political explanations is settled. This allows for decisions about whether

legitimate generalisations between cases can be made. When adopting a qualitative approach throughout a comparative case study method, it is important that accurate generalisations are made about the cases. This is especially important in this thesis, specifically as it examines the lesson-learning capabilities of post-disaster inquiries.

Accordingly, it is important that ontology is understood to be associated with a central question of whether social entities need to be perceived as objective or subjective. The study of post-disaster inquiries includes both objective and subjective data. Interpreting this in its analysis requires an understanding of the political reality that exists around this research.

### *Qualitative and quantitative research, and the use of secondary sources*

Often, research will independently adopt either qualitative and quantitative methods, or a combination of both, however, choices between the two are dependent on the research being undertaken. Qualitative research is an exploratory tool that is primarily used to gain an understanding of underlying reasons, opinions, and motivations of a problem associated with an aspect of social life (Eckstein 1975; Read and Marsh 2002: 232). Eckstein (1975) observes that the approach provides an insight into the specific problem. This thesis adopts a qualitative approach as it seeks to understand the use and utility of post-disaster inquiries. Observations of previous post-disaster inquiries demonstrate the underlying values of individuals and communities to social understandings of a problem (Pierce 2008: 45). Marsh and Stoker (2010: 257) view complete objectivity as impossible to achieve. This thesis seeks to provide an empathetic understanding of post-disaster inquiries and in doing so illustrates the varied and objective role of various stakeholders.

The comparative case study approach of this thesis is undertaken with a small sample size, which is associated with qualitative approaches and provides a deeper analysis of attitudes, feelings, and behaviours of agents and institutions in a disaster's management. However, this thesis is limited by its reliance on secondary sources, such as: relevant academic journals and studies, media reports, and relevant post-disaster inquiry reports. These sources are valuable to this thesis because they offer existing analysis and an understanding of key issues discussed. However, the absence of interviews and primary sources beyond the use of post-disaster royal commission reports is a limitation of this study, because the researcher did not participate in the data collection process and is unaware of how this was conducted. Therefore, it is impossible to make judgements on how well the processes behind the collection of data were conducted and whether these were affected by any problems. In this study, the examination of existing data, in relation to its key research question assists it to overcome these limitations.

Secondary source analysis is an empirical exercise and is argued to apply the same basic research principles as studies utilising primary data (Johnston 2014: 619). Similar to other research methods it follows a systematic set of steps to reach its conclusions. Johnston (2014: 619) asserts that secondary data analysis is a viable method for research, specifically when a systematic process is adopted.

Qualitative approaches are also able to expand upon topics that lead to examinations of areas not traditionally considered through discussions of why people act in certain ways and their feelings about these actions. This view of qualitative research is used to frame this examination of post-disaster inquiries, the decisions within their processes, as well as the impacts of these. The use of qualitative methods is therefore preferred over quantitative methods, because it generates data regarding the underlying reasons and opinions of an aspect of social life that is sought by this thesis. Contrary to this, the quantitative approach identifies statistics that are utilised by researchers to quantify attitudes, opinions, behaviours, and other defined variables (Creswell 2013). As Bryman (1998: 94) asserts, while “quantitative research is hard and reliable [...] qualitative research is deep and rich.” Competing academics have historically utilised quantitative or qualitative approaches (Pierce 2008: 41). Due to recent changes, Read and Marsh (2002: 231) observe that:

[m]ost empirical researchers acknowledge that both qualitative and quantitative methods have a role to play in social science research and that, often, these methods can be combined to advantage.

Despite the possibility of using both methods, a qualitative approach is adopted in this thesis. This is due to it considering research as a process that helps develop understandings of contextual meanings and socially constructed realities (Moses and Knusten 2007: 191-195). Qualitative data provides a rich and detailed picture about why people act in a certain way, with a focus centring on their feelings about these actions. This is important as this thesis seeks to observe how the actions of decision makers and various other actors throughout a post-disaster inquiry impact the success of its investigation and outcomes. Along with this, it seeks to understand why these decisions are made and whether alternative methods of policy evaluation are available and appropriate.

A further rationale for the adoption of a qualitative approach is the chosen comparative case study method. This approach aids not just the study’s exploratory or descriptive purpose, but provides a comprehensive process of constructing its research design. George (1979) and Yin (2003) prescribe that establishing a comparative case study approach encompasses research design, data collection methods, data analysis, and theory building. Setting up comparative case study research involves a series of tasks. These include reviewing the existing literature, conceptualising the research problem, specifying the outcome requiring explanation, and establishing the control variables for the case studies, as well as the

variables that comprise the theoretical propositions and framework of this thesis, case study selection and case study analysis (George 1979: 54-55).

## **The comparative case study method: research design**

Gabriel Almond (1990: 36) recognises that political theories and phenomena differ from reality and that political scientists are seen to investigate issues considered ‘soft’ and less empirically precise, rather than the ‘hard’ and easily calculated evidence used in other disciplines. Despite the acceptance of this position, political theories should not be viewed as any less ‘real’ than others, especially when previous evidence and analysis illustrates the important new and alternative knowledge they convey (Almond 1990: 36). However, it does dictate a strong difference between the measurability of strict scientific studies over that of social science alternatives.

Much of the scholarly contributions relating to public policy are multi-disciplinary. As such, policy studies involve significant input from other scholarly disciplines, especially economics, sociology, and law (Fischer 2003), but must also include contributions from disciplines with relevant expertise. Analysts who possess a broad range of social scientific understanding, quantitative expertise, and communication skills are well placed to contribute to the study of public policy (Fischer 2003). Fischer (2003) also observes that public issues are not neatly contained within traditional disciplinary boundaries. This thesis includes input from various scholarly backgrounds, to ensure a broad range of knowledge and expertise is exhibited of the available literature.

Despite alternative methods existing, a rich history of case study research exists in political science which has transferred into areas of public administration and public policy studies (Eckstein 2000). A vibrant and contemporary methodological discussion within comparative studies of political systems also exists (Eckstein 2000). This chapter proceeds by outlining the comparative case study approach and why it is appropriate for this thesis.

## **Comparative case studies**

Gerring (2004: 341) describes a case study as “an intensive study of a single unit for the purpose of understanding a larger class of (similar) units.” He discusses the “disjuncture that exists between the case study’s acknowledged contributions to political science and its maligned status within the discipline [...]” (Gerring 2004: 341). It is the most widely adopted method in political science (Bennett and George 2005: 61). Despite this, political science has no set definition or method of application for a case study. Instead, a series of definitions contribute to a growth in its understanding, but fail to fully inform political scientists what a case study is and how it is best utilised.

A vibrant and contemporary methodological discussion within comparative studies of political systems also exists (Eckstein 2000). Yin (2003: 13-14) asserts that any definition of a case study should involve characteristics that stipulate its data collection and analysis requirements. He defines case study research as “an empirical inquiry that investigates a contemporary phenomenon within its real-life context, especially when the boundaries between phenomenon and context are not clearly evident.” (Yin 2003: 13). Specifically, Yin (2003: 13-14) observes that:

[t]he case study inquiry copes with the technically distinctive situation in which there will be many more variables of interest than data points; ...relies on multiple sources of evidence, with data needing to converge in a triangulating fashion; and ...benefits from the prior development of theoretical propositions to guide data collection and analysis.

This research adopts a comparative case study approach as it looks at post-disaster inquiries, which involve many variables. The adoption of a comparative case study approach is appropriate because conditions, issues, or ideologies are shared across post-disaster inquiries established in various similar jurisdictions. Their selection is dependent on the number of variables that are to be examined, the availability, and access to related, comparable data, data format, both numeric or non-numeric, and the adopted means of analysis (Pierce 2008). Engels’ (1845/1993; cited in Pierce 2008: 56) illustrates five main reasons for undertaking comparative political research:

1. to provide rich, contextual descriptions which identify clearly the observed similarities and differences between cases and places;
2. to identify and develop systems of classification and typologies which generate data sets appropriate to the research question;
3. to distinguish independent variables (causes) from other variables;
4. to test hypotheses and thus, the validity of explanatory theories; and
5. to develop predictive capacity where, for example, there is evidence of stages of development.

Despite these desired outcomes, a series of common critiques and misunderstandings are associated with the case study approach. Flyvbjerg (2006: 219-45) lists five common misunderstandings associated with case study research:

- theoretical knowledge is more valuable than practical knowledge;
- one cannot generalise from a single case, therefore the single case study cannot contribute to scientific development;
- the case study is most useful for generating hypotheses, while other methods are more suitable for hypotheses testing and theory building;
- the case study contains a bias towards verification; and
- it is often difficult to summarise specific case studies.

Flyvbjerg (2006: 219-20) examines and evaluates the pitfalls of these misunderstandings so to limit any oversimplification or inadequacies and to make the comparative case study approach a stronger and more widely accepted research method. He also notes that “good social science is problem-driven and



not methodology-driven” in the sense that it employs those methods, which for any given problem best help address its research question (Flyvbjerg 2006: 235-36).

This research adopts a comparative case study approach to address the utility of post-disaster inquiries, especially their ability to inform lesson-learning that improves disaster preparedness and responses. The approach is favoured due to similarities in the adoption of royal commissions in response to catastrophic disasters, but also a desire to evaluate the effectiveness of current disaster responses methods.

Case study research is utilised in the study of public policy as an analytical tool that illustrates the actions of various policy actors who attempt to influence the policymaking process (Eckstein 1975). Public inquiries, especially royal commissions are tools utilised by executive government to shape and gather information in the policymaking process. Through case study research, any detail of a decision or set of decisions can be analysed to identify constraints on, approaches to, and techniques for decision-making processes (Eckstein 1975). When ideological perspectives underpin the case study design, the legitimacy, or appropriateness of theoretical concepts are questioned, despite this, its presence is to be expected, especially in the study of politics which is inherently ideological (Eckstein 1975). The use of case studies allows for further learning about how public policy is designed, made, and implemented.

The comparative case study approach acts to “maximise the variance of the independent variables and minimise the variance of the control variable” (Lijphart 1971: 164). The selection of cases for this thesis is based on key similarities, namely the establishment of royal commissions to investigate a disaster. A comparative case study approach is adopted to evaluate the role that post-disaster inquiries perform in the design and implementation of disaster policy. Post-disaster royal commissions emerged from the Westminster system of government and generally share the common characteristics of being established following a disaster. As such, a ‘most similar’ approach to case study identification is adopted. It utilises Lijphart’s (1971) understanding of how to select cases, which helps ensure that selected cases are suitable for comparative analysis to achieve the greatest insight.

The ‘most similar’ approach allows for the key differences of each case to be isolated, something which leads to a more focused analysis. In this regard, the chosen method of this thesis aligns with the ‘most similar’ approach, because all three of its cases are post-disaster royal commissions that identify lessons aimed at improving preparedness and responses to future disasters. Three main variables exist in its case selection, namely the disaster type being evaluated; the location, and the impact of the disaster and inquiry; and the responsible government authority for the post-disaster royal commission’s establishment. The latter is controlled through the selection of cases originating from jurisdictions where similar Westminster traditions of government are present. This thesis identifies how decision-making regarding the operation of these selected post-disaster royal commissions differs, due to

national, and state-based cultural differences in how the approach proceeds. The effect of differences in the disaster type causing the post-disaster royal commissions, is averted through the provision of extensive background information on the disaster, its causes, and its consequences.

Pitfalls exist relating to the selection and use of cases. Historians warn about the trade-off between description and explanatory power, specifically when detail is sacrificed for greater generality and where many cases are utilised (Mackie and Marsh 1995: 178; Ragin 1991). George (1979: 45) identifies that this risk can occur in both single and comparative cases where a researcher isolates an event from its historical context, which can alter any comparative analysis. Conversely, researchers can be too descriptive, providing too much information about cases, which comes at the expense of the comparative analysis. In only examining three post-disaster inquiries, this thesis attempts to avoid this potential pitfall.

Despite the analysis and theory development stages being considered the most difficult stage of the research process, Yin (2003) outlines how the comparative case study methodology relies heavily on it. An appropriate definition of phenomena or events facilitates this stage, specifically where each is treated as a type of scientific observation, and where a standard set of questions of each case are asked to compile comparable data (George 1979: 62). This action enables causal patterns to be illustrated, which contributes to valid and reliable theory-building (George 1979: 50).

The comparative case study method is robust, comprehensive, and sophisticated. This evolves from its capacity to outline new concepts, create hypothesis, and to confirm, challenge, reformulate, or further develop existing theory, which makes it the ideal method for understanding complex contemporary political phenomena. The comparative case study approach is utilised to show how the use of royal commissions contributes to improved disaster preparedness and responses.

Considering this chapter has already established the limitations of comparative case studies, especially in the analysis and theory development stage, it could be suggested that the approach lacks academic rigour and that more appropriate models exist (Yin 2003: 10). Despite any misgivings, Yin (2003: 10-11) recognises the comparative case study approach as an ideal method for critically engaging with complex and contemporary political concepts, ideals, and theories. This recognition makes it ideal for the study of post-disaster inquiries.

## Research methods

### *Data Collection*

Information and knowledge are essential to effectively utilising any research method, but especially when the qualitative approach is adopted (Bryman 1998). This research collects its data and seeks to transfer it into knowledge through documentary analysis. When studying public inquiries, documentary analysis includes an inquiry's interim or final reports; ministerial, parliamentary and media statements relating to it; any transcripts of evidence submitted to it or reviewed by it; and any relevant private inquiries that supplement or review it (Rhodes 1975: 67-68).

Quality research interprets information. A primary source is a firsthand or eyewitness account of an activity or event. Webb and Webb (1932: 105) through their assessment of social case study methods, which includes discussion of public inquiries, observe the benefits of utilising primary sources of information in research:

[...] we can say with confidence that, for our own specialty – the analytical history of particular forms of social organisation – an actual handling of the documents themselves must form the very foundation of any reconstruction or representation of events, whether of preceding periods or of the immediate past [...].

A surplus of primary sources is available in the study of post-disaster inquiries. This is particularly relevant to those investigated in this thesis, where readily available transcripts and submissions were used to formulate their recommendations and findings. Beyond the transcripts of evidence and submissions collected, this thesis analyses the terms of reference of its three case studies, documentation collected throughout the hearings, and the inquiry reports themselves. The analysis of these sources was through extensive reading and note taking. This process is undertaken carefully by examining the document and the situation surrounding its origin. Interpretations of these documents are used to accumulate information on the source and reach the conclusions of this thesis. Understanding this information, particularly about the post-disaster inquiry reports allows this thesis to reach its conclusions about the process being undertaken and the ramifications of decisions made by the commissioners. In doing so, this thesis notes the previously highlighted limitations, specifically the lack interviews and engagement with key informants. Interviews with implementers or individuals involved in the processes of the post-disaster inquiries, a systematic analysis of the various implantation reports associated with the case studies, or further data collection and analysis of public or media salience of key elements of the Teague, Holmes, and Cooper Inquiries would have made the conclusions and recommendations of this thesis more robust.

Documentary analysis is the primary method for collecting the data utilised in this thesis, but in doing so Rhodes' (1975: 67-68) discussion of difficulties in interpreting these sources are recognised:

Public statements, whether by ministers, committees, interested parties or 'outsiders' are obvious sources of information but, like all such sources, have to be interpreted, that is to say they cannot be taken at their face value. Moreover, the true reasons for the appointment of a particular committee may well remain a matter of considerable argument ... The real difficulty is in applying the process to contemporary or near-contemporary events where there is a two-fold problem: first, the inaccessibility in the most cases of certain documentary evidence, namely that recorded in departmental files in the form of correspondence, reports of private meetings, and discussions, memoranda to ministers, cabinet committees etc; secondly, the possible relevance of unrecorded and private conversation and discussion.

Public inquiries include significant data that contains documented opinion, as such this thesis must adequately comprehend this in its analysis. As hearings are held at some distance from the event under investigation, its analysis, and report must be considered as a secondary source, but the information obtained through hearings and submissions are in effect primary sources. Understanding potential biases is important to conducting this study's analysis. Post-disaster inquiries are generally led by commissioners who have legal expertise, as such any review of data needs to consider this or any other potential bias (Prasser and Tracey 2014b).

Paired with this, a series of appropriate secondary sources are utilised, which include relevant academic journals and studies, media reports, and relevant post-disaster inquiry reports. Reaching meaningful conclusions through its analysis of data is central to the success of any comparative case study approach. Central to the collection of data is the choice of potential cases, which is discussed below.

### *Case selection*

This thesis adopts a comparative case study approach and through the selection of its cases, it has adopted a 'most similar' approach. In adopting this approach, it seeks to discover differences between similar approaches to post-disaster inquiries, as to illustrate where improvements can be made to decision-making throughout the establishment, investigation, and post-investigation stages of these inquiries. Despite their establishment following different disaster types in differing jurisdictions, post-disaster royal commissions rely on the occurrence of a catastrophic disaster and the instigation of an investigation stemming from traditions of Westminster systems of government. Throughout this thesis, judgements of the success of the cases will be made. Prior to outlining the rationale for case selection, this chapter introduces how it measures a post-disaster inquiry's success.

## Measurement of an inquiry's success

Croucher (2014: 19-20) observes that the “implementation of recommendations is one important measure of the effectiveness of public inquiries.” This is despite there being no obligation for the executive government responsible for its establishment, to provide updates on the implementation of any recommendations, or to even implement them. The recommendations of a post-disaster inquiry should never be blindly implemented by governments, this is despite the strength of these being a judgement of their success.

This thesis proposes that the implementation of its recommendations and the success of these in mitigating the impacts of future disasters is a measurement of a post-disaster inquiry effectiveness. This is due to the number of recommendations implemented from a post-disaster inquiry being used to judge its success. An analysis of processes used to ensure the implementation of recommendations and an understanding of what types of recommendations were implemented over different periods, whether in the short, medium, or long-term aftermath of the post-disaster inquiry would have allowed this thesis to make more robust conclusions. As such, this limitation of this thesis is overcome by using secondary sources that have monitored the implementation of recommendations, as well as the success of this process.

It is noted that the cases examined in this thesis, namely the Teague, Holmes, and Cooper inquiries all occurred in the recent past. As such, the analysis of this thesis, specifically relating to the implementation of recommendations does not cover the medium or long term. Instead, it focuses on the implementation of its cases' recommendations over the short term. In doing so, this thesis notes that there are different implementation periods, such as the immediate, medium, and long term. Importantly, policy change can and does occur over the medium and long term, but it is that change that occurs immediately after a post-disaster inquiry that helps judge its success, because this change should be the most influential in ensuring improved disaster preparedness and responses.

Differing inquiries have adopted alternative approaches to implementing their recommendations. This is largely dependent on decision-making throughout post-disaster inquiries, with those that adopt a rational framework throughout their establishment, investigation, and post-investigation stages creating recommendations that reflect the objective information gathered from knowledgeable actors. However, when this framework is not adopted, politically expedient reasons for a post-disaster inquiry dictate decision-making throughout its various stages. When established as an exercise of political expediency, a device to delay decision-making, a way to avoid acting, or as a ploy to pacify the interest of the public and various stakeholders, the implementation of a post-disaster inquiry's recommendations is less

significant as a measurement of its success. This is due to it not being a focus for governments in establishing post-disaster inquiries.

While these motivations are in some way present in most post-disaster inquiries, this thesis notes that in most examples rational decision-making frames their various stages and is why the implementation of recommendations becomes an appropriate measure for their success. The implementation of recommendations is not the only measurement of their success, but this thesis notes that this must lead to lasting lesson-learning opportunities that mitigate future disasters and improve preparedness and responses. Measuring the success of an inquiry is dependent on evaluation, and reflections on this will be used throughout this thesis in the comparative analysis of decision-making throughout the Teague, Holmes, and Cooper inquiries.

### Rationale for case selection

Charles Ragin and Howard Becker (1992: 4-7) recognise that little consensus exists on the idea of what is a case in the social and political sciences. This position creates a problem for scholars from these disciplines when endeavouring to undertake case study research. Gerring (2004: 341) argues that “a case study is best defined as an in-depth study of a single unit where the scholar’s aim is to elucidate features of a larger class of similar phenomena.” Eckstein (1975) notes that case study research has focused on the nation state or independent jurisdictions, but an emerging trend has been the growth of comparisons of and between various political actors, institutions and/or phenomena.

The strength of the comparative case study method is that it “allows valid generalisations provided that there is a theoretical statement against which to compare the case studies” (Rhodes 1995: 56). The theoretical statement that this thesis tests relates to Eburn and Dovers (2015) critique of post-disaster inquiries in achieving lessons that improve disaster preparedness and responses. This thesis tests the continued use of post-disaster inquiries and identifies trends in their use that should be widely adopted or avoided.

Case studies examining policy development and public administration have been used to understand approaches to complex policy issues. Identifying the failings and successes of current policy performance within different jurisdictions helps explain alternative options. Improvements emerge through lesson-learning that advances disaster preparedness and responses.

Despite any limitations of or misconceptions about the case study approach, it continues to be adopted and developed. Bennett and George (2005: 76) illustrate that the singular or multiple case study methodology in political science is the preferred approach for public policy comparisons, especially when the goal of the research is program evaluation or the examination of causal relationships. The

multiple case design, which this thesis adopts, allows for generalisations to be made based on the observations of patterns or replications among the cases (Yin 2003). Across the examination of three post-disaster inquiries, the analysis will gauge their effectiveness for policy learning for disaster preparation.

To address the identified aims of this study, specifically regarding lesson-learning capabilities of post-disaster inquiries, three cases are selected for analysis. With over 50 Australian inquiries established to investigate bushfires alone since 1939, a plethora of options for cases are available for examination. The direction of this thesis emerges from Scott Prasser's extensive scholarly contributions to the study of public inquiries (Prasser 2005; Prasser 2006; Prasser 2012; Prasser and Tracey 2014a). He notes the need to further evaluate their use, specifically Prasser outlines the need to examine issue areas covered by public inquiries in greater depth (Prasser and Tracey 2014a: ix). In the selection of case studies, it is important that care is taken to ensure generalisations are not made from a limited sample set (Stoecker 1991).

The challenge for this thesis is to choose cases, that have both a representative sample and a useful variation on the dimensions of theoretical interest. Gerring and Jason Seawright (2008: 295-96) suggest that non-random case selection allows the researchers to adopt the most appropriate cases for the selected research strategy. This is an appropriate method for this study, because of the more than 50 inquiries into bushfires alone since 1939.

A specific focus on post-disaster royal commissions, rather than other inquiry forms limits the number of possible case studies, but represents a sample of the most prestigious and respected form of public inquiries. Despite being the most significant approach available to government, the selection of post-disaster royal commissions as case studies represent the adoption of a typical case. This approach is adopted because the case study analysis seeks to "probe casual mechanisms that either confirm or disconfirm a given theory" (Gerring and Seawright 2008: 297). The choice to only include post-disaster royal commissions, rather than other forms of inquiries is because it is the highest and most prestigious form of investigation available to governments. As such, its investigation and outcomes are highly regarded by the public, and a high level of expectation exist in its lesson-learning abilities. The choice to only include post-disaster royal commissions is also dependent on the three catastrophic disasters that were investigated, which this thesis suggests, due to their outcomes present the greatest potential for lesson-learning. Despite differences between the approach, this thesis asserts that wherever possible the recommendations it makes can be transferred to all forms of inquiry. A representative sample of case studies was sought, with key differences existing between the three chosen post-disaster inquiries in their establishment, investigation, and post-investigation stages, which provide data for analysis in this thesis. This data also supports the developments of its findings.

A plethora of potential cases exist, including: the *Inquiry into the Operational Response to the January 2003 Bushfires in the ACT*, the *Victorian Review of the 2010-11 Flood Warning and Responses*, the *2013 Tasmanian Bushfire Inquiry*, and the *2011 Perth Hills Bushfire Inquiry*. These cases have not been selected for multiple reasons, including the inquiry type utilised, previous extensive studies on the disaster or related inquiry, and the limited information existing on the post-investigation stage due to an inquiry's recent conclusion.

The shared experience of catastrophic disasters between Australia and New Zealand, as well as similar adoptions of inquiry traditions associated with Westminster systems of government, is why this thesis includes the Cooper Inquiry in its comparative case study approach (Kellow 1988). Similarities in their political systems emerge from shared Westminster traditions of government, but an obvious difference is Australia's a federal system of government, compared to New Zealand's unitary system (Kellow 1988). Despite this, Kellow (1988: 61) outlines the potential benefits of comparisons between Australia and New Zealand, specifically through theoretical advancements, and understandings that result from comparisons between federal and unitary states.

Comparative studies, between countries with Westminster systems of government, develop out of key cultural and political differences that have emerged since the development of their own national political system. Policy transfer between Australia and New Zealand has gone through periods of high and low velocity (Sawer, McLaren, and Kelly 2011). In the 1980s, institutional and cultural similarities between the two countries facilitated the adoption of successful policy experiments that were tested in one or another of the Australasian jurisdictions, and the rejection of less successful ones (Sawer, McLaren, and Kelly 2011). Understanding Australia and New Zealand's history make it ideal for comparative studies based on a 'most similar' design. The comparison of cases that are similar, in as many aspects as possible, makes it easier to simplify the identification of the source of difference. The political architecture of the two countries, particularly the differences resulting from Australia's federal system and New Zealand's unitary system provide interesting data for analysis.

Accordingly, this thesis examines three recent post-disaster royal commissions, which were each established in different jurisdictions to investigate different disasters, but all adopt a similar method of inquiry:

- the *2009 Victorian Bushfires Royal Commission* (Teague Inquiry);
- the *2011 Queensland Floods Commission of Inquiry* (Holmes Inquiry); and
- the *2012 Canterbury Earthquakes Royal Commission* (Cooper Inquiry).

The selection of these cases is based on their fulfilment of the following criteria to ensure that the analysis undertaken in this study most appropriately achieves its aims. These are displayed in Table 3.1.



The criteria in Table 3.1. illustrate similarities across the cases and are included due to the benefit these add to the comparative analysis of this thesis. Table 3.1. illustrates that each of the Teague, Holmes, and Cooper inquiries were established to follow catastrophic disasters and were royal commissions. Beyond this, the relevant disaster, or an aspect of it are examined, which highlight that in their aftermath questions exist over whether lessons were learned and if these are appropriately aimed at improving disaster preparedness and responses. The Teague, Holmes, and Cooper inquiries were all public, with their complete reports and findings available online or in library collections. This ease of access to information is important in ensuring this thesis has what is required to conduct its comparative analysis.

**Table 3.1.: Criteria for case study selection**

	Teague Inquiry	Holmes Inquiry	Cooper Inquiry
<i>Scale: followed 'catastrophic' disaster</i>	✓	✓	✓
<i>Established as a royal commission</i>	✓	✓	✓
<i>Established to investigate disaster, impacts of a disaster or aspect of it</i>	✓	✓	✓
<i>Contention over the effectiveness of the inquiry's lesson-learning capabilities</i>	✓	✓	✓
<i>Full and publicly available information</i>	✓	✓	✓

Table 3.1. pinpoints key similarities of the adopted case studies and the rationale for their selection, especially as this thesis adopts a ‘most similar’ approach. In the following sections, the reason these post-disaster royal commissions were chosen as cases are outlined in specific detail. Further to the information provided in these sections, the following three chapters (Chapter 4, 5, and 6) extensively introduce all aspects of the disaster and post-disaster inquiry associated with each case.

### Case one: 2009 Victorian Bushfires Royal Commission

The 2009 bushfires are Australia’s most catastrophic bushfire disaster, and caused vast destruction to property, over 400 injuries, and the loss of 173 lives (Teague 2010: xxiii). Paired with this impact were over 430,000 hectares of burned area (Teague 2010: xxiii). This burned area included more than 2000 homes that were destroyed or damaged, leaving thousands of people homeless (Teague 2010: xxiii). Various towns across Victoria, from Bendigo to Beechworth, experienced the impacts of the 2009 bushfires, with Marysville and Kinglake experiencing the most extreme impacts of the disaster (Teague 2010: xxiii). All but three businesses and 20 houses in Marysville, a town of more than 500 people were destroyed (Teague 2010: xxiii). The event represents the potential brutality and destruction caused by bushfire disasters in Australia, especially in its south-eastern corner. The scale and intensity of the disaster illustrates its significance as part of Australia’s history, but perhaps more importantly its impact on Victorian communities led to calls for government action in response to the event.

Following its occurrence, Victorian Premier John Brumby announced the establishment of a royal commission to investigate the events that led to, and occurred during the 2009 bushfires (Australian Broadcast Corporation (ABC) Online 2009; McGeough 2009). In establishing the Teague Inquiry, Brumby outlined that it would have wide-ranging terms of reference, so that disaster preparedness and responses could be improved and that the impacts of an event like this would never be repeated (ABC Online 2009; McGeough 2009). Details of the Teague Inquiry are provided in greater depth in Chapter 4.

Despite the impacts and events of the 2009 bushfires, these events are not unprecedented, and further education is required to ensure those most likely to be impacted by the disaster understand their dangers (Teague 2010a: 18). The events of 7 February 2009, and the post-disaster inquiry that followed have informed various lessons. Through submissions and hearings, the Teague Inquiry’s findings and recommendations focused on the following topics: fuel reduction and prescribed burning; warnings; fire preparedness; planning and local government; ‘stay or go’, evacuation, and refuges; emergency management of fires; and the causes and circumstances of the fires (Teague 2009a: 104-118; Teague 2010a). The desire to improve the defensibility of homes and communication during a disaster were also key outcomes of the Teague Inquiry. The Teague Inquiry also recommended that “the State identify

a central point of responsibility for and expertise in mapping bushfire risk” to communicate the risks of bushfire to properties (Teague 2010a: 31). However, after the conclusion of its report, questions have emerged over whether lesson-learning has occurred, due to both the time the inquiry took to undertake its investigation, and its focus on blame and issues of liability.

Its inclusion in this thesis, is based upon the scale of the 2009 bushfires, which are recognised for their “record-breaking weather conditions and bushfire of a scale and ferocity [that] tested human endurance” (Teague 2010a: v). The selection of the Teague Inquiry is not just due to the disaster it investigates, but also the investigation it undertook. The Teague Inquiry undertook an extensive investigation that aimed to contribute lesson-learning opportunities that mitigate future impacts of disasters and improve preparedness and responses. However, as a recent disaster, questions have been raised over the lessons emerging from the inquiry, and whether it is the most appropriate method for reviewing and learning from disasters.

### Case two: 2011 Queensland Floods Commission of Inquiry

The 2010-11 floods are considered among Australia’s most catastrophic floods and caused significant destruction to south-east Queensland, specifically to the city of Brisbane (Holmes 2012: 32). Over the proceeding days, the Brisbane River caused major damage to homes, businesses, and infrastructure across Brisbane and the surrounding region. Across Queensland at least 35 people were killed, upwards of 5,000 homes were flooded, and 21,000 homes damaged (Holmes 2012: 32-37). More than 900,000 people were impacted by the flooding that occurred in over 90 Queensland towns (Holmes 2011: 24-27). Three-quarters of the council areas within the state of Queensland were declared disaster zones. Substantial flooding in the Fitzroy, Burnett, Condamine, Ballone, and Mary rivers was recorded and impacted nearby communities.

In Australia at least 951 people have been killed by floods between 1852 and 2011 and a further 1,326 have been injured (Carbone and Hanson 2012). In the same period the cost of damage is an estimated \$4.76 billion dollars (Carbone and Hanson 2012). This is despite Australia being the driest inhabited continent on Earth (Bureau of Transport and Regional Economics 2002: 1-2).

In response to the floods, Queensland’s Premier Anna Bligh established a commission of inquiry to examine the disaster, government preparedness, and the emergency response. The inquiry was chaired by serving Justice Catherine Holmes and begun its investigation in February 2011. Holmes was assisted by James O’Sullivan AC and Phillip Cummins who were appointed as deputy-commissioners (Holmes 2012: 33). A 250-page interim report was tabled on 1 August 2011 and included 150 recommendations. The interim report provided advice for the forthcoming wet season, suggesting the Wivenhoe Dam be reduced to 75 percent capacity, because its operating manual was “a bit of a mess” (Hatzakis 2011;

Skjonnemand 2011). The 650-page final report was delivered to the Premier on 16 February 2012 and contained 177 recommendations.

Much like each of the cases selected, the Holmes Inquiry was chosen due to the wide range of evidence and information that is associated and available regarding the disaster and inquiry. The information is not just from the Holmes Inquiry's investigation, but from media reports, and commentaries of the 2010-11 floods or associated and similar post-disaster inquiries. The Holmes Inquiry's investigation focused on several matters, namely: preparation and planning for the floods by governments, agencies, and the community; the adequacy of the response to the floods; management of essential services; the adequacy of forecasts and early warning systems; insurers' performance of their responsibilities; the operation of dams; and land use planning to minimise flood impacts. Despite its terms of reference being specific, the commissioners were tasked with a broad and daunting range of subject matter to investigate (Holmes 2012: 623-27). Particularly, as they were tasked with producing a series of recommendations that inform how the region could be better prepared for future flood emergencies. The legitimacy of the Holmes Inquiry's investigation, findings, and recommendations was challenged after its conclusion by a campaign led by talkback radio host Alan Jones, which eventually led to a further commission of inquiry that reached similar conclusions to that of Holmes and her commissioners.

The scale and intensity of the 2010-11 floods and its impacts make it a significant disaster in Australia's recent history. The Holmes Inquiry, which was established to investigate and evaluate the floods has informed various recommendations and lessons that aimed to improve disaster preparedness and responses not just in Queensland, but throughout Australia. Further information on the Holmes Inquiry, as well as background information on the 2010-11 floods is outlined in Chapter 5.

### Case three: 2010-11 Canterbury Earthquake Royal Commission

In response to the Canterbury earthquakes, specifically the events of 22 February 2011, New Zealand Prime Minister John Key established the Cooper Inquiry (Cooper 2011: 3-4). Its inclusion allows for analysis of how New Zealand's unitary system of government impacts the establishment of post-disaster inquiries.

The Cooper Inquiry was established to investigate and evaluate the 2010-11 earthquakes, which are recognised as some of the most destructive in New Zealand's history (Cooper 2011: 3-4). The impact of these earthquakes is made more significant by the fact that they occurred in a region where a limited exposure or experience of the disaster had previously existed (Cooper 2011: 4). The Canterbury region is in the central-eastern part of New Zealand's South Island, and the major city in the region is Christchurch, which is where the 2010-11 earthquakes' most catastrophic destruction occurred.

The 2010-11 earthquakes represent a series of earthquakes and aftershocks that affected the Canterbury region over a nine-month period. The first earthquake occurred on 4 September 2010. It caused few injuries, but no fatalities and had its origin on a previously unknown fault (Cooper 2011: 4). The most catastrophic earthquake, in terms of destruction, and impact occurred on 22 February 2011. It was a 6.2 magnitude earthquake, that had an epicentre only six kilometres south-east of Christchurch, causing most of the deaths, injuries, and destruction associated to the 2010-11 earthquakes (Cooper 2011: 4). The 22 February earthquake led to 185 deaths, nearly 2000 reported injuries, with 164 of these serious, and a substantial amount of damage to infrastructure in Christchurch (Cooper 2011: 4). Unlike the other cases, where the experience of the disaster type is common to that location, these earthquakes came as a surprise to many, with no legacy of their potential in the Canterbury region. Most of the 185 deaths were associated with the destruction and collapse of buildings, specifically of the Canterbury Television (CTV) building, which caused 115 of the 184 deaths (Cooper 2012c: 3).

The Cooper Inquiry differs to the other cases of this thesis, because its aims and terms of reference focuses on reviewing, and making recommendations with regards to building regulations and practices of the infrastructure that collapsed, or was destroyed across the Canterbury region during the earthquake, most notably in Christchurch (Cooper 2011: 11). This represents a more specific focus than the other cases of this thesis, which focuses on preparedness, and responses to the disaster in question. The focus of the Cooper Inquiry benefits this thesis, because it allows for the evaluation of different outcomes of decision-making in the Teague, Holmes, and Cooper inquiries. Due to differences throughout the design and undertaking of each of these there is plenty of data for analysis.

High Court Judge Justice Mark Cooper chaired the Cooper Inquiry, and was supported by two deputy-commissioners, Sir Ron Carter and Professor Richard Fenwick who both held relevant engineering qualifications (Finlayson 2011). The Cooper Inquiry ran from April 2011 until November 2012, and made 189 recommendations regarding the causes of building failure during the earthquakes, as well as the adequacy of building codes and standards throughout New Zealand's Central Building Districts (CBD) (Wright and Greenhill 2012). The Cooper Inquiry examined specific issues regarding the CTV, Pyne Gould Corporation (PGC), Forsyth Barr, and Hotel Grand Chancellor buildings, but it excluded from its investigation any questions of liability, the earthquake search and rescue effort, and the rebuilding of the city (Cooper 2011: 50-54).

The Cooper Inquiry's lessons focused on building performance during the earthquake, and as such a substantive amount of information exists to be analysed. The differences in this between the other cases form a principal component of the analysis and the recommendations listed in the conclusion chapter. Further background information and discussion of the Cooper Inquiry and 2010-11 earthquakes are provided in Chapter 6.

## Summary

This chapter has outlined the basis for this research's intended methodological framework. In doing so, it describes the comparative case study method that is adopted to address whether a post-disaster inquiry is a useful evaluative tool to identify lessons and ensure these are learned, and that they mitigate, or prevent the future impacts of disasters. In designing its methodology, the advice of Gerring (2004) has been heeded to ensure that the scope of this thesis is problem rather than method driven.

Through its outline of the basis for this research's chosen methodological framework, a 'most similar' approach is adopted in its comparative analysis of the Teague, Holmes, and Cooper inquiries. The comparative case study method is adopted due to key similarities in the response to catastrophic disasters of differing jurisdictions. This allows this thesis to analyse differences in decision-making between different post-disaster royal commissions to assess the impact of these and determine whether any differences in approaches could improve it.

It is difficult to anticipate the future of case study research in political science, but it can be assumed that much depends on how present methodological debates unfold and how intensely political scientists hold on to earlier forms of case study research as a legitimate way of studying politics and public policy. This chapter has not pinpointed one set definition for comparative case study research, but it has outlined the methodological framework around which this thesis is built. This assists this thesis in continuing the tradition of case study research in policy studies, and political science more broadly.

In the following three chapters, background information on the disasters and associated post-disaster inquiries are provided. In each the establishment, investigation, and post-investigation stages of the post-disaster inquiries are focused on in relation to aims identified thus far in this thesis.

## **CHAPTER 4**

### **CASE ONE: 2009 VICTORIAN BUSHFIRES ROYAL COMMISSION**

Since the 1939 Stretton Inquiry, a plethora of lessons have been identified, notably through post-disaster inquiries that aim to improve disaster preparedness and responses. Despite this, the 2009 bushfires caused unprecedented damage, destruction, and fatalities. The events of 7 February 2009 are considered one of Australia's most catastrophic natural disasters, and one of the world's worst ever bushfires. In response, the Victorian Government established a royal commission to review the causes and consequences of the 2009 bushfires. This included the preparation and planning for these by communities, governments, and other relevant stakeholders, all aspects of the response to the 2009 bushfires, and measures taken to prevent or mitigate the disruption of services during the disaster.

The scale and intensity of the 2009 bushfires are key to its inclusion in this thesis, especially as the royal commission that followed the event aimed to identify lessons that would mitigate or prevent future impacts of disasters through the improvement of responses and preparedness. The intensity and impact of the 2009 bushfires, and the significant undertaking of the Teague Inquiry through its investigation are central to its inclusion in this thesis.

This chapter outlines the Teague Inquiry, specifically choices made throughout its establishment, investigation, and post-investigation stages. Before it outlines the undertakings of the Teague Inquiry, this chapter provides a snapshot of bushfires in Australia. This discussion focuses on the causes and consequences of these events in Australia. It outlines previous experiences, impacts, and responses to Australian bushfires, especially those similar to the 2009 bushfires. This chapter then outlines all aspects of the 2009 bushfires and the Teague Inquiry. It looks at decisions, undertakings, and outcomes of its three identified stages. This focus allows this thesis to fully discuss and analyse decisions made during the Teague Inquiry. It addresses its effectiveness, appropriateness, and usefulness in identifying and informing lessons that improve disaster preparedness and responses.

#### **Bushfires in Australia: a snapshot**

Australia continues to experience catastrophic bushfires, and their occurrence remains a large part of Australia's natural environmental history. Every year, typically from late October through to March, Australian communities are in some way impacted by the occurrence of bushfires, particularly in its south-eastern region. Australia's susceptibility to bushfires is reinforced through reports that recognise



its south-east corner as one of the three most bushfire prone regions in the world (Lucas *et al.* 2007: 1-2).

Environmental hazards arise from the interaction of natural and social systems (Burton, Kates, and White 1993: 31-32). Catastrophic bushfires represent this and pose a threat to human life, and property. Webster (2012: iii) notes that at the time of early European settlement much of Australia's vegetation had evolved through natural and/or anthropogenic fires. Whether its ignition was lightning or Aboriginal burning, fire posed a real threat to the newly acquired land of European settlers.

Australia's experience of bushfires date back prior to European settlement, with evidence highlighting how Aborigines managed the use and presence of fire (Webster 2012: iii). Clearer information regarding the impact and intensity of bushfires was available after European settlement and has been maintained through recorded evidence. Victoria, Tasmania, South Australia, Western Australia, the ACT, and NSW all continue to experience the impacts of bushfires (Goode *et al.* 2011: 7-8).

This section outlines the causes and consequences of Australian bushfires. It highlights how they are a natural element of living in Australia. Following this the impact and responses of Australia's previous experiences of bushfires are introduced. In doing so, background information on the nature, intensity, and impact of bushfires are discussed, so to provide context for the 2009 bushfires.

### *Bushfire in Australia*

Bushfires are common in Australia, with their occurrence posing a threat to life, property, and the economy, particularly in its heavily populated south-east region. Paul Collins (2009: xvii) discusses the inevitability, impact, and role of bushfires in Australia:

[w]e have yet to accept that fire is part of the very fabric of our continent. Australia would be completely different without it. In my view, fire should be seen as a positive force; it does not come to destroy but to sort things out, to probe our strength, and ultimately to renew.

This view is reflected throughout modern understandings of bushfires, and is supported through the experience of varying fire seasons in Australia, which result from the continent's diverse weather patterns (Luke and McArthur 1978). Southern Australia experiences its most dangerous bushfire period in summer and autumn. NSW and southern Queensland, reaches its peak period of risk in spring and early summer, while the Northern Territory experiences most of its fires in winter and spring (Goff and de Freitas 2016: 232).

Notwithstanding the natural elements of bushfires, climatic changes impact their occurrence. Victoria, and more widely the south-eastern corner of Australia experiences a Mediterranean climate, with hot

and dry summers and mild and wet winters. Teague (2010d: 10-12) illustrates how south-east Australia's wet winters and spring rains allows for fuel growth, while the dry summers heighten potential fire danger. Fire danger is exacerbated by periodic droughts and abnormal weather conditions, which have increased in frequency since the 1990s (Teague 2010d: 10-12). Victoria experiences most of Australia's largest and deadliest bushfires; since 1939 three of Australia's worst bushfires have occurred in the state: the 1939 Black Friday bushfires, the 1984 Ash Wednesday bushfires, and the 2009 bushfires.

Northern Territory and the northern areas of Western Australia and Queensland endure the largest fires in terms of the total area burned (Luke and McArthur 1978). When extreme fire weather is experienced close to populated areas, the chance of considerable loss increases. It has been those bushfires that have occurred in Victoria, South Australia, and Tasmania where the greatest loss of life and economic damage has occurred. This is due to public and private infrastructure being positioned in close proximity to flammable vegetation (Haynes *et al.* 2010).

Fuel, oxygen, and an ignition source are the three basic factors that determine whether a bushfire will occur (Cheney and Sullivan 2008). A bushfire's intensity and the speed at which it spreads depend on the ambient temperature, fuel load, fuel moisture, wind speed, and its slope angle (Cheney and Sullivan 2008). When attempting to control a fire, it is imperative that at least one of these three basic features are avoided. Mitigating the speed and intensity of a bushfire is central to its containment.

Fuel loads are increased by Australia's hot and dry climate, which is also linked to periods of drought (Lucas *et al.* 2007). Australia has over 800 endemic species of vegetation, but its landscape is dominated by fire-adapted eucalypts (Lucas *et al.* 2007: 1). Progression in the regular burning of grasses and undergrowth to minimise fire fuel has led to the succession of fire tolerant and flammable species throughout Australia's local ecosystems (Wakefield 1970).

Varying forms of fuel load exist in Australia, but it is vegetation, specifically that which sits low to the ground, that adds to the severity of a bushfire. Phases and processes of prescribed burning assist with the management of fuel loads, but there is still no unanimous consensus on the extent to which this is required. Landholders, whether public, or private, use fire to improve pastures and reduce fuel loads. Government land managers propose fire on public land to meet ecological and fuel management objectives (Teague 2011c: 278-279).

Lightning accounts for approximately half of all bushfire ignitions in Australia (Geoscience Australia 2014). It is the predominant natural ignition source of bushfires (Geoscience Australia 2014). Fires of human origin account for the remainder and are classified as either accidental or deliberate. Deliberately lit fires are a result of arson or are designed to achieve a beneficial outcome, but the experience of

sudden adverse weather conditions alters its course at an uncontrollable speed (Geoscience Australia 2014). Deliberate and accidentally lit fires are prevalent near populated areas and have a disproportionately higher risk of impact on infrastructure. Arsonists place people and property at serious and unnecessary risk, particularly when igniting fires on extreme fire weather days.

No matter the ignition source of the fire, the damage, and destruction that bushfires can and do cause is worth considering. Natural elements, specifically weather conditions, impact the intensity, and nature of any bushfire. Understanding this is not just important because of the significant risk that bushfires pose to the way Australians live, but due to the role they continue to hold in transforming Australia's natural environmental heritage (Geoscience Australia 2014).

Increasing days of extreme fire danger undermine preparation for and understandings of fire. The increasing frequency, intensity, and severity of bushfires has created a problem for governments, communities, and impacted stakeholders who must adapt, so that they ensure that they are prepared and can adequately respond to their future occurrence. Changes to policy and procedures have resulted from evaluation and review of previous disasters, which most commonly occur through post-disaster inquiries. The post-disaster inquiries that followed some of Australia's most catastrophic bushfires are now introduced.

### *A snapshot of Australian bushfires*

Prior to the 2009 bushfires, Victorian records indicate that fifty-two significant bushfires had occurred since 1851, with over two-thirds of them occurring since 1939 (Teague 2010d: 2-3). The most catastrophic of these caused extensive and lasting destruction to the Victorian environment and impacted communities across the state. The experience of bushfires and learning from these events has not been exclusive to Victoria.

This section looks at various significant Australian bushfires and their associated post-disaster inquiries. The 1939 Victorian Black Friday bushfires, the 1967 Tasmanian Black Tuesday bushfires, the 1983 South Australian and Victorian Ash Wednesday bushfires, the 2003 Canberra bushfires, and the 2013 Tasmanian Bushfires are outlined. Also discussed is the impact that each had that each left on the environment and the affected communities. Table 4.1. outlines these and their impacts. Changes to bushfire knowledge, management, and policy resulting from their occurrence, explicitly relating to advancements in preparedness and responses to their future occurrence are also discussed.

**Table 4.1.: Australian bushfires**

	<b>Bushfire duration</b>	<b>Fire location</b>	<b>Area burned (ha)</b>	<b>Human fatalities</b>	<b>Destruction</b>	<b>Inquiry</b>
<i>1851 Victoria Black Thursday bushfires</i>	6 February 1851	Victoria	5 million ha	Approx. 12	N/A	No
<i>1939 Victorian Black Friday bushfires</i>	December 1938 to January 1939 (peaked on 13 January 1939)	Victoria	2 million ha	71	3,700 buildings; 1,300 homes; and 69 sawmills	Yes
<i>1967 Tasmanian Black Tuesday bushfires</i>	7 February 1967	Tasmania	Approx. 264,000 ha	62	1,293 houses; 80 bridges; and 1700 other buildings	Yes
<i>1983 Ash Wednesday bushfires</i>	16 February 1983	Victoria and South Australia	Approx. 400,000 ha; 200,000 ha in South Australia and 200,000 ha in Victoria	75 (47 in Victoria and 28 in South Australia)	3,700 buildings	Yes
<i>2003 Eastern Victorian Alpine bushfires</i>	8 January to 8 March 2003	Victoria	1.3 million+ ha	3	41 homes	No <sup>9</sup>
<i>2003 Canberra bushfires</i>	18 to 22 January 2003	ACT	160,000 ha	4	488 buildings, including over 200 homes in Duffy	Yes
<i>2009 Black Saturday bushfires</i>	7 February to 14 March 2009 (peaked on 7 February)	Victoria	450,000+ ha	173	2,029 homes; and 2,000 other structures	Yes
<i>2013 Tasmanian bushfires</i>	4 January 2013	Tasmania	20,000+ ha	1	Over 170 buildings	Yes
<i>2013 New South Wales bushfires</i>	16 October to November 2013	NSW	118,000+ ha	2	248 buildings destroyed; and over 100 damaged	No

<sup>9</sup> While no specific inquiry examined this disaster, there was a more general inquiry initiated by the Commonwealth Government to evaluate the 2002-03 bushfire season across Australia.

## 1939 Victorian Black Friday bushfires

The 13 January 1939 Victorian Black Friday bushfires are considered among the worst bushfires ever experienced in the world. The bushfires resulted in 71 deaths, the destruction of several towns, and almost 2,000,000 hectares of burned land (Stretton 1939). Over 1,300 homes were burned and 3,700 buildings were destroyed (Stretton 1939). A royal commission chaired by Leonard Stretton followed the Black Friday bushfires. It led to major changes to the management of forests in Victoria (Stretton 1939).

The Stretton Inquiry was established in response to the Black Friday bushfires by the Victorian Government, with it illustrating how "it appeared the whole State was a light on Friday 13 January 1939" (Stretton 1939). The inquiry's recommendations and conclusions have contributed to the advancement of knowledge and lessons that have improved bushfire preparedness and responses. Recommendations of the Stretton Inquiry led to the establishment of the *Forest Act 1968 (Vic)* that gave the Forests Commission responsibility for forest fire protection on public land (DEPI 2014). The report was also responsible for the establishment of Victoria's CFA. The CFA was established to better manage the occurrence of bushfires in rural regions across Victoria (DEPI 2014). These recommendations have contributed to the future management of bushfires in Victoria and Australia. Widely-held regard for the Stretton Inquiry is a result of the way it was written, namely its ability to create a lasting documentation of the Black Friday bushfires.

Outlining the Black Friday bushfires, along with the associated Stretton Inquiry introduces early awareness of the potential destruction caused by bushfires in Australia. The continued recognition of the 1939 bushfires as a catastrophic natural disaster results from the lessons it has informed. These have contributed to improved responses and preparedness for future disasters. They have also mitigated or prevented the impacts of future bushfires.

## 1967 Tasmanian Black Tuesday Bushfires

The 7 February 1967 Tasmanian Black Tuesday bushfires are the deadliest bushfires ever experienced in Tasmania. They caused 62 deaths, over 900 injuries, and left over seven thousand individuals homeless (McArthur and Cheney 1967). Despite the Black Tuesday bushfires being the worst in loss of life and property in Tasmanian history, the meteorological conditions experienced on 7 February 1967 are common. McArthur's 1967 inquiry report into the causes and consequences of the bushfire notes that "very similar conditions have occurred on three or four occasions during the past 70 years" (McArthur and Cheney 1967: 7).

The 1967 Black Tuesday bushfires were a result of a sustained heat wave, arson, and back-burning gone wrong. These causes were exacerbated by weather conditions that preceded and occurred on 7 February 1967. In 1966, the late winter and early spring period throughout south-eastern Tasmania had been wet, causing a large growth in vegetation. However, November 1966 was also the start of the driest eight-month period since 1885 (Hyde 2013: 6). A series of hot days leading up to 7 February 1967 resulted in 110 separate fire fronts burning over approximately some 2,640 square kilometres of land in southern Tasmania (Hyde 2013: 6). The location of the fires spread from Hamilton and Bothwell to the D'Entrecasteaux Channel. Snug and areas to the south of Hobart sustained significant damage, specifically to agricultural property as the fire stretched throughout the south of Tasmania (Wettenhall 1975). The bushfire also destroyed forest, public infrastructure, and properties around Mount Wellington, which demonstrates the proximity of the 7 February 1967 bushfires to Hobart, Tasmania's capital city and most densely populated region.

Following the events of 7 February, various inquiries were established to investigate the Tasmanian bushfires and their impacts. These inquiries included *The bush fire disaster of 7th February, 1967: report and summary of evidence* (Chambers Inquiry), which was chaired by DM Chambers and CG Brettingham-Moore, the *Tasmanian bushfires of 7th February 1967 and associated fire behaviour characteristics* (McArthur Report), which was conducted by AG McArthur and NP Cheney, and a detailed report on the weather conditions leading up to and on 7 February 1967 provide an invaluable account of fire behaviour associated with the Tasmanian bushfires, this report was undertaken by Bureau of Meteorology staff, mainly HG Bond, K McKinnon and PF Noar (Chambers 1976; McArthur and Cheney 1967; McArthur 1968; Bond, McKinnon, and Noar 1967). Each provides a detailed reflection on aspects of the 7 February 1967 bushfires. When read together they provide an overview of the event, as well as lessons that improved disaster preparedness and responses.

The Chambers Inquiry was the main investigation established by the Tasmanian Government and was chaired by then Tasmanian Solicitor-General DM Chambers. He was assisted by former secretary of the Victorian CFA, G Sinclair, Canberra Forest Research Institute's A McArthur, and the Warden of Oatlands D Burbury. The commissioners all held different areas of expertise, which they used to support the inquiry in its investigation. The inquiry began in June 1967 and provided its 38-page report to parliament on 11 August 1967.

In conjunction with reports into the 1983 Ash Wednesday fires, the McArthur Report and Chambers Inquiry illustrated that people were more likely to be killed while out in the open (the majority fleeing from a building) and that properties defended by their occupants stood a far higher chance of survival (McArthur and Cheney 1967). More recent research into the policy has reflected misunderstandings of its intention (Haynes, Tibbits, and Lowe 2008).

## 1983 Victorian and South Australian Ash Wednesday Bushfires

The Ash Wednesday bushfires occurred on 16 February 1983. Within twelve hours a series of bushfires caused extensive destruction across Victoria and South Australia. The severity of the bushfires increased due to the recent experience of prolonged drought throughout the region (Wilson and Ferguson 1984). This paired with weather conditions that are recognised as one of Australia's worst ever fire days resulted in 75 fatalities and 2,676 injuries (Wilson and Ferguson 1984). A sudden and violent wind change in the evening caused most of the fatalities, because it triggered a rapid change in the size of the fire front and the its direction.

Ash Wednesday had destructive impacts beyond the 75 fatalities and 2,676 injuries. Over 3,700 buildings were destroyed and damaged by the Ash Wednesday fires and 2,545 individuals and families lost their homes (Teague 2010d: 2). The bushfires had a significant impact on the agriculture industry, with 340,000 sheep and 18,000 cattle dying, or later being destroyed as a result of the disaster (Teague 2010d: 2). Once it was contained the Ash Wednesday bushfires had burned 400,000 hectares of land (ABC Emergency 2013). The destruction and size of the bushfires resulted in the utilisation of the largest number of on duty volunteers from across Australia at the same time, with an estimated 130,000 firefighters, defence force personnel, relief workers, and support crews involved (Miller 1984).

Until the 2009 bushfires, the 1983 Ash Wednesday bushfires were the benchmark for comparing disasters and their impacts. The Victorian and South Australian governments, both established inquiries into the event, with a specific focus on preparedness and responses, as well as the disasters impact within their state.

Victoria's inquiry focused on its 47 fatalities (Miller 1984). Its findings and conclusions recognised that 25 people died outside of their homes, several of whom had died in vehicles while attempting to escape the fire. Concerns with delays in deciding to evacuate before the bushfire became a prominent finding of the inquiry, specifically as it led to the establishment of the 'stay or go' policy that was adopted throughout Victoria and Australia (Miller 1984).

The Victorian Ash Wednesday inquiry illustrated that ember attacks are the predominant cause for house ignition in a bushfire and that combustible elements immediately around the house contribute to the risk of it occurring (Miller 1984). It concluded that "people who chose to stay and defend their home or property should be allowed to do so" (Miller 1984: 137). These contributions built upon evidence collected in response to the 1967 Hobart fires, leading to the adoption of policy where staying to defend a well-prepared home or leaving for a safe place well before a fire threat appeared, were viewed as the two best options for survival during a bushfire. The idea to stay and defend your property, instead of evacuating early became fundamental to the Australasian Fire Authorities Council

(AFACs) (2012: 5) policy platform:

With proper preparation, most buildings can be successfully defended from bushfire. People need to prepare their properties so that they can be defended when bushfire threatens. They need to plan and defend them, or plan to leave early.

The adoption of this position was reviewed and evaluated heavily in the Teague Inquiry first interim report (Teague 2009a: 187-204).

The South Australian inquest discovered that the communication systems used by its Country Fire Service were inadequate, concluding that a new Government radio network was needed (Lazarus and Elley 1983), but this was not installed until almost 20 years later. The inquest led to improvements in weather forecasting by the Bureau of Meteorology, with specific reference given to wind changes and fronts (Lazarus and Elley 1983). There was also an emergency disaster plan that was legislated and is known as DISPLAN (Lazarus and Elley 1983).<sup>10</sup> Many of the lessons learned were associated with building better fire prepared homes, bush management, or the efficiency of emergency response, which would all prove vital during later crises, including the 2003 Canberra fire outbreaks (Lazarus and Elley 1983).

## 2003 Canberra Bushfires

The fires were the most widely recognised of a series of bushfires across the south-eastern corner of Australia throughout the 2002-03 summer. The Canberra bushfires burned for over a week on the edges of the ACT, causing four deaths and over 490 injuries (Handmer and Haynes 2008: 67). These are most widely recognised for causing devastating destruction to many of the city's suburbs on 18 January 2003 (McLeod 2003). Over 500 homes were severely damaged by fires that were ignited by lightning strikes in the Brindabella and Namadgi National Parks. The 2003 Canberra bushfires tested the preparedness and responses of the ACT's urban and rural fringe areas (McLeod 2003).

In response to the 2003 Canberra bushfires, the ACT Government initiated the *Inquiry into the Operational Responses to the January 2003 in the ACT* (McLeod Inquiry). It was chaired by Ron McLeod, a former Commonwealth Ombudsman and delivered its findings on 1 August 2003 (McLeod 2003). The McLeod Inquiry is significant, because it recommends that there should be increased emphasis given to controlled burning as a fuel reduction strategy; it also highlights that there needed to be greater access to and training of emergency personnel in remote areas, because the emergency

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<sup>10</sup> DISPLAN is a commonly utilised phrase, which refers to the disaster plans of local authorities throughout Australia.



services and the policies that govern their operations needs to be improved, including a greater emphasis on provision of information to the public (McLeod 2003).

Other inquiries were initiated, including a House of Representatives Select Committee, which inquired into the 2002-03 bushfire season across Australia (*A Nation Charred: Report on the inquiry into bushfires* 2003). An investigation of the 2003 Canberra bushfires were included in this report. *A Nation Charred* reviews all aspects of bushfire preparation, responses to it, and its impact. Other inquiries included the *National Inquiry on Bushfire Management, Prevention, and Mitigation (COAG)*, which was conducted in cooperation between the Commonwealth and the States and Territories through the Council of Australian Governments (COAG).

The 2003 Canberra bushfires and the McLeod Inquiry were supplemented by a Coroner's Inquiry that looked into the causes, origin, and circumstances of the fires and inquests into the associated deaths (Doogan 2006). The inquiry was conducted under the provisions of the *Coroners Act 1997 Act (ACT)* (Doogan 2006). Criticism marred it when in February 2005 the ACT Supreme Court heard an application that the Coroner be disqualified due to bias. While in the end she was not disqualified and resumed with proceedings, she and the inquiry never fully recovered from this (Doogan 2006). The undertaking of the Coroner's Inquiry demonstrated a new capacity for this form of inquiry, which was to make judgements on the management, preparedness, and response to catastrophic disasters.

### 2013 Tasmanian Bushfires

Tasmania's recent experience of bushfires, on 4 January 2013, was its most significant bushfire emergency since the devastating 1967 fires (Hyde 2013: 1). Beyond the one firefighter who died of natural causes while fighting the 2013 Tasmanian bushfire, there were no fatalities, but it did cause substantial economic, social, psychological, and environmental damages.

Almost 20,000 hectares of land was burned throughout the central highlands, east coast, and Tasman Peninsula, where over 170 buildings were destroyed. The events of 4 January 2013 were part of an extensive six-month fire season in Tasmania, but it was the heatwave experienced on 4 January that caused several fires to spread across the state. The heatwave resulted in Hobart's warmest every recorded temperature of 41.8 degrees occurring on 4 January 2013. The bushfires isolated communities in south-east Tasmania and on the Tasman and Forestier peninsulas. A rescue effort evacuated people by water, with many forced to find shelter to protect themselves from the bushfire. The 2013 Tasmanian bushfire provided a test for its emergency services, where the lack of any deaths is viewed as a success.

A Tasmanian Government inquiry followed the 2013 Tasmanian Bushfires (Hyde 2013). It is famous for heavily criticising the emergency response to the fires and for suggesting that lives were put

at risk (ABC Online 2013). The report suggested that emergency service agencies were poorly prepared and that improvement was required. It also revealed that the fire service failed to send adequate resources to Dunalley, despite new computer modelling that displayed the potential threat. Dunalley was the worst hit town in January's bushfire emergency (Hyde 2013). Over 63 homes in the township were destroyed, along with the local bakery and primary school (Hyde 2013). Both the fire and police services questioned some of the inquiry's findings, specifically relating to the accuracy of computer modelling (Lefroy 2014). The Tasmanian Fire Service has since conducted its own inquiry into the 2013 Tasmanian bushfires.

### Summary of Australia's bushfire experience

Australia's previous experiences of bushfires illustrate the important role that advancements in knowledge and understandings of the disaster have on the ability for lessons to be made and for responses and preparedness to these to be improved. Incremental policy change can be seen through the advancement of recommendations from various post-disaster inquiries.

Comparisons between the 2009 bushfires and other similar previously experienced disasters in Australia illustrate that the level of destruction caused by it is unmatched. It is concerning that these catastrophic impacts continue to occur, particularly as advancements in technology and knowledge should assist with their mitigation or prevention. The two disasters previously experienced in Victoria, where their impacts compare to those of the 2009 bushfires are the 1939 Black Friday and 1983 Ash Wednesday bushfires. Table 4.1. compares the impacts of Australia's most catastrophic bushfires. It shows that 71 fatalities resulted from the burning of over two million hectares during the Black Friday bushfires and that the 75 deaths that resulted from the 418,000 hectares burned during the Ash Wednesday fires. Neither of these death tallies reached the number of fatalities associated with the 2009 bushfires. However, in both a significant number of casualties did result.

## **2009 Victorian Black Saturday Bushfires**

The 2008-09 Victorian bushfire season was one of Australia's longest and most demanding ever. The catastrophic 2009 bushfires occurred on 7 February causing a wave of destruction and devastation across Victoria that is unmatched throughout Australia's history. In the week leading to 7 February, Victorian authorities gave explicit warnings about the upcoming bushfire conditions. One warning illustrated the belief that it was likely to be "the worst day ever in the history of the State" (Teague 2010d: xxiii). The extreme weather conditions leading up to 7 February 2009, included heat waves and severe and prolonged drought (Teague 2010d: 2). These catastrophic conditions increased throughout late January and reached their peak on 7 February 2009. The 2009 bushfires resulted in the loss of 173

lives, many more being seriously injured, and the destruction of 109 towns and 33 communities (Teague 2010c: xvi).

A lasting memory of the 2009 bushfires is sustained by those who are directly impacted by it, but also because of its severity and nature. This section introduces the 2009 bushfires and discusses the events that led to it, notably the weather conditions, and fuel potential of the region on 7 February 2009. Following this, it outlines the fires, their locations, and their impacts. Lastly, this section outlines the various responses from relevant actors to the 2009 bushfires.

### *Weather Conditions*

The occurrence of extreme heat, high winds, and severe drought combined on 7 February 2009 to create some of Victoria's worst ever recorded bushfire weather conditions (Teague 2010d: 10-11). During the final weeks of January 2009 Victoria experienced one of its most severe and prolonged heatwaves, where record temperatures were reached (Teague 2010d: 11-12). In the weeks leading to the 2009 bushfires, Melbourne experienced three consecutive days of temperatures over 43 degrees, with a peak on 30 January 2009 of over 45 degrees, which was the third hottest day in the city's history (Teague 2010d: 10). The experience of three consecutive days, where the temperature was above 43 degrees is the first time this had occurred in Melbourne since records had been kept. The heatwave created ideal conditions for hot tropical air to be directed down over south-eastern Australia.

The temperatures on Saturday 7 February were forecast to reach the low 40s with strong winds also expected. On 6 February 2009, then Victorian Premier John Brumby issued a warning regarding the extreme weather conditions that were expected the next day: "It's just as bad a day as you can imagine and on top of that the state is just tinder-dry. People need to exercise real common sense tomorrow" (Moncrief 2009). Leading Victorian bushfire agencies, including the CFA and the Department of Sustainability and Environment (DSE) warned that forests and grasslands were the driest they had been since the 1983 Ash Wednesday fires (Teague 2010b: 1). Brumby added to his warnings about the weather conditions on 7 February, when he anticipated it as having the potential to be the "worst day [of fires conditions] in the history of the state" (Moncrief 2009).

The forecasted weather conditions for 7 February were realised, as were people's worst fear as fires broke out across Victoria. By 11.00am the temperatures neared 40 degrees throughout most of the state, with it later climbing to the mid-40s (Teague 2010d: 10). As the day progressed strong winds in the morning transformed into storm force levels, but it was the wind change that moved across the state during the afternoon that intensified the fires and led to the greatest destruction (Teague 2010d: 12). A change in wind direction or intensity can have a dramatic impact on the management of a bushfire, because it creates unparalleled risks to firefighters and the public's safety. The change in wind direction

on 7 February 2009 directly altered the path and severity of fires across the state (Teague 2010d: 15). While the wind change was expected across the state, it was the early arrival and intensity that challenged the ability for incident management teams (IMT) and firefighters to respond. When this was paired with inadequate planning and advice from several IMTs, insufficient warnings about the approaching fires were provided to firefighters and communities (Teague 2010b: 8).

The experience of these weather conditions led to the high McArthur Forest Fire Danger Index rating on 7 February 2009, which is used to record fire weather conditions (Teague 2009a: 156). The level it reached during the 2009 bushfires was higher than the conditions experienced during both the 1939 Black Friday and 1983 Ash Wednesday bushfires (Karoly 2009). Questions after the 2009 bushfires reflect on the impact of the weather conditions on the casualty toll, notably on whether policies for dealing with bushfires and their management were adequate.

### *Vegetation and Land Conditions*

The build-up of vegetation, including leaves, bark, twigs, branches, and trees, or a combination of these acted as fuel for the 2009 bushfires. Improper land clearing led to a build-up of vegetation, with its presence altering the bushfire's path and behaviour (Teague 2010d: 16). Fuel sources vary in type, size, quantity, arrangement, and moisture content all impact a fire's behaviour. The interaction of fuel, weather, topography, and the fire itself affects its behaviour. Paired with this interaction, this thesis highlights a direct link between drought, increased fire activity, and more intense fire behaviour.

Areas facing north and north-west in Victoria's south-east are generally drier, as such they are more susceptible to fire (Teague 2010d: 16). Victoria's natural environment is both hilly and mountainous. Much of the state contains mountain ranges, including the Otway Ranges in the south, the Grampians in the west, and the Great Dividing Range in the east. These pose a series of challenges when fighting fire, because for every 10 degrees of slope on a mountain or hill, the speed of a fire travelling uphill doubles (Teague 2010d: 16). A further challenge associated with Victoria's mountainous areas is that much of it is forested, and contains high fuel loads that contribute to ferocious fires (Teague 2010d: 16).

Land and vegetation throughout Victoria was altered by weather conditions in the lead up to 7 February 2009. Dry conditions experienced on 7 February, paired with the consequences of a sustained period of drought and a lack of rainfall contributed to the presence of a substantial fuel load, which amplified the severity and impact of the 2009 bushfires (Teague 2010d: 16). The ignition of the 2009 bushfires as aided by characteristics of the fuel, particularly its dryness, total amount available, and its presentation on the forest floor (Teague 2010d: 16). The forest fuels carried the fire more easily than originally expected, which enhanced the severity of the 2009 bushfires. In the Mountain Ash forests, the

conditions experienced prior to 7 February 2009 dried out a region that is generally considered too moist to burn, thus creating additional fuel loads, which added to the severity and impact of the 2009 bushfires (Teague 2010d: 16).

A prolonged period of drought had contributed to increased fuel loads throughout Victoria. David McGahy, the Arthurs Creek-Strathewen CFA Brigade Captain and someone who has lived in the area for 40 years, observed:

[...] [the bush] was dying because of the cumulative effect of all the dry years. It was in a lot of trouble, the bush. I remember talking to one of the DSE chaps and he said, 'If we cop a fire through here, it's had it, this bush. It's not going to regenerate because it is under too much stress now.' So it was extreme. The week before we had had two or three days of 45 and it was just extreme. We knew if it came, it was going to be something special (Teague 2009: 45).

McGahy's contribution illustrates the dire conditions that were experienced across Victoria in the weeks and days leading up to the 2009 bushfires (Teague 2009a: 45).

Each of the conditions outlined in this section contributed to the catastrophic nature of the 2009 bushfires, which caused 173 deaths. The dry conditions and increased presence of vegetation amplified the intensity and spread of the 2009 bushfires. This knowledge of fuel loads is not new and the need to act on this has been a constant recommendation and conclusion of previous post-bushfire inquiries.

### *Fires and Locations*

The 2009 bushfires caused enormous problems for Victorian fire agencies. In the aftermath of the 2009 bushfires, the CFA responded to 632 individual incidents notification (Teague 2009a: 48). One-hundred and ninety-nine of these were reported as grass, scrub, tree, vegetation, or plantation fires, with 68 of these controlled within an hour of notification (Teague 2009a: 48). At the same time 117 active fires were reported to have started on public land, with 93 having commenced prior to 7 February (Teague 2010d: 4). Despite being reported and acted upon, many of these were not major fires. Of the 24 fires reported to DSE on 7 February, four could not be found and 12 were contained to less than five hectares (Teague 2010d: 4). Thus, fire authorities were tasked with a significant job fighting the 2009 bushfires.

Various Victorian communities were impacted by the Black Saturday bushfires, including: Kinglake, Marysville, Beechworth, Bendigo, Redesdale, Bunyip State Park, Gippsland, Dandenong Ranges, Wilsons Promontory, Maroondah, Horsham, Coleraine, and Weerite (Teague 2010b: 2). The greatest impact and severity of the bushfires was experienced in the regions around and including Kilmore East, Kinglake, and Marysville. Smoke and fire could also be seen from Melbourne. The wide-ranging locations of bushfires across Victoria highlights the severity of the 7 February 2009 events. It is

imperative to recognise the various locations where the fires and their impacts were experienced. This information is outlined further in Table 4.2.

Despite the significant fuel loads present and created in the lead up to 7 February 2009, previous fuel reduction through prescribed burning did slow the fires rate of movement. It also reduced the final size of some fires. However, fire authorities faced increased difficulties because of the varied nature and different patterns of bushfire behaviour. Western Victoria experienced grass and scrub fires. These progressed from ground fires to flame heights of 30 plus metres, with prevailing winds changing the direction and path of the fires, which caused ignition to additional bushfires.

### *Damage and Impacts of Black Saturday*

Table 4.2. outlines the various locations of 2009 bushfires. It also summarises the destruction and impacts of these that fulfilled expectation, which had braced Victorians for the “worst day” in the state’s history (Moncrief 2009). The record temperatures, gale force winds, and large fuel loads combined to contribute to over 47 major bushfires igniting across Victoria, with 14 of these resulting in fatalities or significant damage (Teague 2010d: 14). Table 4.2. illustrates the varying impacts, severity, and causes of the various 7 February 2009 bushfires. Ignition sources ranged from power lines to arson, lightening, or machinery (Teague 2009a: 60-82). Reflecting on these in comparison to the fatalities in individual fires, suggests that there is no direct connection between a fire’s ignition source and the total deaths that it causes.

As fires raced across a series of townships throughout Victoria, powerful winds, and steep slopes challenged the resources of local firefighters, with many forced to flee from their path (Teague 2010d: 15-16). Witnesses recount the fires jumping over a major highway and through major forests, with one witness describing the presence of a bushfire as a giant fireball (Teague 2010d: 16-17). The size and nature of the 2009 bushfires meant that evacuation in some areas was not possible, and dozens who chose to try and escape in cars died on the road when the fires overtook them. Even prior to the 7 February bushfires, late evacuation, whether through a lack of knowledge or warning of what was approaching, was seen to occur at too high a rate and was viewed as a significant contributing factor to the loss of life (Tibbits *et al.* 2008: 59-60).

Of the 173 deaths that resulted from the 7 February bushfires, 113 of these individuals died in or near to a house or similar structure (Teague 2010d: 234). Of the remaining fatalities, 24 died while fleeing the fire in vehicles or on foot, three suffered heart-related side effects, some died from injuries sustained during the fires, while others died taking cover and fighting the fires in sheds, outbuildings, and spas (Teague 2010d: 336). Many of the fatalities caused by the 2009 bushfires, were a result of people originally trying to flee in their vehicle. When this failed, the individuals left their vehicle and tried to

escape on foot (Teague 2010d: 336). Along with these fatalities an interstate firefighter died a week after being struck by a falling tree (Murdoch 2009). Out of the 173 deaths, 100 were males, and 164 were Australians. The prevalence of these demographics as victims of the 2009 bushfires, suggests that many dies while trying to defend their homes, because understandings of bushfire evacuation suggest that women and kids have traditionally fled earlier. This action was in accordance with how many interpreted the ‘Stay or go’ policy, prior to the 2009 bushfires.

Also of note is the 414 injuries, which due to the intensity and speed of the 2009 bushfires were mostly minor (Cameron *et al.* 2009: 11). Very few major burns were inflicted, which differs significantly to the Ash Wednesday bushfires. As a result of the 2009 bushfires, only 22 individuals presented with serious burns, while 390 attended medical treatment centres with minor burns and other related injuries (Cameron *et al.* 2009: 11).

As the day progressed and as changes in wind direction occurred, the fire was pushed in to the north-east and became a problem for more towns. In the north-east, a parallel bushfire engulfed the unsuspecting tourist town of Marysville, where 39 people lost their lives (Teague 2010d: 4, 15). The fire also caused 590 houses and numerous commercial buildings to be destroyed.

Improvements in disasters preparedness and responses did not lead to actions that prevented or mitigated the impacts of the 2009 bushfires. Accordingly, their occurrence created a significant discussion about the lessons being learned in Victoria and Australia, especially about managing, and responding to bushfires. These questions were addressed in the Teague Inquiry, which aimed to review, and provide a point of reference for the 7 February 2009 bushfires.

**Table 4.2.: Summary of 2009 ‘Black Saturday’ bushfire damage by locality**

<i>Location</i>	Area (ha)	Fatalities	Buildings destroyed	Ignition source	Fire name/origin
<i>Kinglake Area</i>	180,000+	120	1,244 houses, many commercial buildings	Power lines	Kilmore East fire
<i>Marysville Area</i>	150,000+	39	590 houses, many commercial buildings	Unknown	Murrindindi Mill fire
<i>Central Gippsland</i>	32,860+	11	247 houses	Arson	Churchill-Jeeralang fire
<i>Beechworth</i>	30,000+	2	29 houses	Power lines	Mudgegonga fire
<i>Bunyip State Park</i>	24,500	0	24 houses, several other buildings	Arson/lightning suspected	Bunyip State Park fire
<i>Wilsons Promontory</i>	11,000+	0	None	Lightning	-
<i>Redesdale</i>	10,000	0	12 houses, several outbuildings	Unknown	-
<i>Horsham</i>	5,700	0	Eight houses, several other buildings	Power lines	Remlaw fire
<i>Weerite</i>	1,300	0	Several outbuildings	Power lines	-
<i>Coleraine</i>	770	0	One house, several outbuildings	Power lines	-
<i>Maroondah/Upper Yarra</i>	505	0	None	Spotting	Maroondah/Yarra complex
<i>Bendigo</i>	384	1	61 houses, 125 sheds, and outbuildings	Arson	Maiden Gully/Bracewell Street fire
<i>Dandenong Ranges</i>	5+	0	9+ houses	Unknown, machinery	Upper Ferntree Gully fire
<i>Totals</i>	450,000+	173	3,500+ (2,029+ houses)		

(Teague 2010d; 2009a: 34-82)



## *2009 bushfires: relief and recovery*

Relief and recovery efforts are central to any disaster response. The catastrophic impacts and nature of the 2009 bushfires meant that response to it posed a challenge to the relevant authorities. The transition between relief and recovery is not always easily distinguishable. The establishment of institutions to manage the immediate and long-term consequences of the disaster was central to both relief and recovery (Teague 2010c: 323). Recovery needs to include rebuilding infrastructure and restoring the emotional, physical, social, and economic wellbeing of impacted people (Teague 2010c: 323). Part of this, is ensuring that things are rebuilt to at least what they were previously, but this must be done with an aim at improving community and infrastructure safety (Teague 2010c: 323).

The destruction caused by the 2009 bushfires resulted in one of Australia's largest ever recovery efforts (Teague 2010c: 322). The Teague Inquiry, which followed, and investigated the 2009 bushfires, observed that early relief, and recovery efforts were based on accounts of people's individual experiences. Despite initial immediate responses, there is an acceptance by individuals, communities, local economies, and the environment that a long-term approach to recovery is required. A long-term recovery approach in response to the 2009 bushfires was established on 10 February 2009 (Teague 2010c: 322). It was facilitated by the Victorian Bushfire Reconstruction and Recovery Authority (VBRRA) (Teague 2010c: 322).

Municipal emergency coordination centres remained open for weeks after the disaster, with emergency relief centres providing support and accommodation for residents who had been evacuated and were unable to return home (Teague 2010c: 324-26). Some of these centres remained open as recovery centres for months after the fires, providing continuing support services, and assistance for displaced residents, who were affected by the 2009 bushfires.

Reflecting on the scale and intensity of the 2009 bushfires, the Teague Inquiry asserted that the initial relief and recovery efforts were well managed (Teague 2010c: 322-23). The relief initiatives of both State and Commonwealth Governments were generally considered prompt and well-coordinated. The Minister for Police and Emergency Services Bob Cameron coordinated the recovery efforts at Victoria's Cabinet level (Teague 2010c: 322).

Relief and recovery were also aided by public donations of food, clothing, and bedding, which resulted from media reports that illustrate how the 2009 bushfires had impacted communities. Relief efforts from both local communities and the wider community was immense (Teague 2010c: 322).

No set timeline exists for complete recovery, and many, including impacted communities, firefighters, and individuals will carry the memory of the 2009 bushfires with them forever. The VBRRA ceased its

existence in June 2011, after over 28 months of leading reconstruction and recovery activities (VBRA 2011: 3). As part of the response, Standards Australia fast tracked new building regulations for bushfire prone areas in Victoria (Victorian Building Authority 2016). These standards were in place for the recovery and reconstruction of infrastructure damaged or destroyed by the 2009 bushfires.

Despite a well-regarded and respected recovery effort, the chaos and unanticipated situations that arose from the occurrence and aftermath of the 2009 bushfires meant that some plans failed. The Teague Inquiry and VBRA recognised that relief and recovery processes are complex, especially when the emergency rapidly escalates and occurs in multiple locations. Relief efforts were hindered by the continuing fires, inaccessible roads, and limited power sources and telecommunications in the days and weeks after the fires (Teague 2010c: 322-23).

### *2009 bushfires: lawsuits*

On 13 February 2009, only six days after the 2009 bushfires a class action lawsuit was initiated in the Victorian Supreme Court. Slidders lawyers filed the action against electricity distribution company SP AusNet in relation to the Kilmore East fire (Houston and Bachelard 2009). The firm outlined that the claim would centre on alleged negligence by SP AusNet in its management of electricity infrastructure (Houston and Bachelard 2009).

Eventually, law firm Maurice Blackburn initiated the class action that alleged that Singapore Power International failed to fit a \$10 protective device on the power line, and that this contributed to the Kilmore East/Kinglake fire starting and its devastating impacts (The Sydney Morning Herald 2010). In 2014, this case settled for A\$470 million, which is Australia's largest ever class action settlement (British Broadcast Corporation (BBC) Online Asia 2014). As part of the lawsuit, Utility Services Corporation Ltd, the line maintenance contractor, and the DSE were also sued for inadequate bushfire prevention measures (BBC Online Asia 2014).

Other law firms, including Gadens Lawyers and Slater and Gordon announced their intention to undertake separate class action claims (Houston and Bachelard 2009). The mention of these is not just due to the record class action settlement, but because they used evidence of findings made in the Teague Inquiry. Thus, highlighting the potential for the Teague Inquiry and other post-disaster inquiries to assist in retribution being found due to observed negligence.

## *Government Responses to the 2009 bushfires*

Paired with these responses to the 2009 bushfires, were those by the Victorian and Commonwealth Governments. Their responses varied, but both supported the efforts of firefighters and emergency management operators.

The central response of the Victorian Government to the 2009 bushfires was the establishment of a royal commission that aimed to evaluate the disaster and “all aspects of the government’s bushfire strategy” (Teague 2010b: 1-2). Prior to the Teague Inquiry’s commencement, the Victorian Government enforced the message that the emergency services had done the best that they could in managing the 2009 bushfires (Austin 2009a, ABC Online 2009). Despite this reassurance, the Teague Inquiry in its publicly released 360-page interim report was critical of many aspects of Victoria’s emergency service agencies (Teague 2009a).

## *Summary of the 2009 bushfires*

Despite the vast technological advancements and greater available knowledge, Black Saturday was Australia’s deadliest bushfire. While there was claims to the contrary, the Teague Inquiry’s view was that the occurrence and impact was not unprecedented (Teague 2010d: 17-18). In a submission to the Teague Inquiry, Phil Cheney, an honorary research fellow with Commonwealth Scientific and Industrial Research Organisation (CSIRO) states that:

[i] certainly don’t think they are unprecedented in even our recent history over the last 50 years. What we are doing better is making more measurements and making more observations [...] So I think there is very little evidence to say these were unprecedented (Teague 2010d: 17-18).

The Teague Inquiry addressed whether Australia’s deadliest bushfire disaster was unprecedented. Professor Ross Bradstock, of the Centre for Environmental Risk Management of Bushfires at the University of Wollongong, outlines how he does not:

[...] think these fires are unprecedented, at least in historical time, in terms of size, and intensity and pattern in the landscape. I guess the thing you could add to that, though, is we must appreciate that land use and people and property are very different now than they were in 1939 or even 1983 and so you have to take that into account in understanding consequence of this event (Teague 2010d: 17).

Jenny Williams, a former US Forest Service National Director of Fire and Aviation conducted extensive research into United States ‘megafires’ and was requested by the Teague Inquiry’s commissioners to address whether the 2009 bushfires were unprecedented. She responded that:

[i]n terms of size of fire, we [United States] have always had big fires and Australia has always had big fires. In terms of impact, though, this was unprecedented. I think you have to use that word when you talk about one of the largest, if not the largest, civil disaster in the country's history (Teague 2010d: 18).

These observations note, that despite its unprecedented impact on the loss of the life, the experience of the 2009 bushfires was not unprecedented. This understanding reiterates the need to identify and learn lessons about how to better prepare and respond to bushfires, especially when predictions assert that the conditions of the 2009 bushfires will likely occur more frequently in future.

The Teague Inquiry was established to investigate, evaluate, and make recommendations in response to the 2009 bushfires. Its publication represents the production of a substantial set of volumes reflecting on the 2009 bushfires that provide recommendations aimed at improving disaster preparedness and responses.

## **2009 Victorian Bushfire Royal Commission**

In the days following the 2009 bushfires, an understanding of the impacts, reasons for, and costs associated with the event were sought from a variety of actors, including individuals, communities, relevant stakeholders, and governments. A Commonwealth supported relief program, aimed towards those who had suffered some form of loss was immediately established in response to the impact of the 2009 bushfires (Teague 2010c: 333-334). Despite a strong relief effort, it was clear that the community, stakeholders, and government needed to further understand the 2009 bushfires, specifically how to minimise the risks of a similar tragedy occurring in the future. Victorian Labor Premier Brumby swiftly announced his intention to establish the Teague Inquiry.

The appointment of the Teague Inquiry displays how seriously the Victorian Government took its role in adequately responding to the 2009 bushfires. A royal commission was seen as the only form of inquiry that would operate independently of the Victorian Government, but its appointment is noteworthy due to the Teague Inquiry's extensive powers of investigation and ability to discharge its terms of reference (Teague 2010a: xii). However, unlike other states in Australia, Victoria does not have specific legislation that facilitates the establishment of a royal commission (Teague 2010a, xii). Instead, to establish it, the Victorian Government were required to create and pass legislation: *Bushfires Royal Commission (Report) Act 2009*. The act was necessary to ensure that a report could be produced and tabled in parliament. Providing the opportunity for an inquiry to produce a report is necessary, because the public release of its findings is central to a royal commission's undertaking.

Throughout its establishment, a key aim of the Teague Inquiry was to provide conclusions and recommendations that would improve bushfire responses and preparedness. It sought to achieve this by

giving priority to the protection of human life. However, the achievement of this was reliant on the acceptance of shared responsibility between governments, fire agencies, communities, and individuals in minimising the potential of an event similar to the 2009 bushfires from reoccurring (Teague 2010d: xxviii). Throughout the Teague Inquiry's investigation priority was given to the preservation of human life, but consideration was also directed towards ensuring Victoria's environmental sustainability (Teague 2010d: xxv).

The Teague Inquiry produced two interim reports and a four-volume final report (Teague 2010b: 38, 41).<sup>11</sup> Despite these being made publicly available at different stages of its investigative process, Teague (2010d: xxvi) outlined how each of the Teague Inquiry's reports should be read and considered together. This approach provides a coherent understanding of the 2009 bushfires, as well as its lessons that advocated for improvements to disaster preparedness and responses. This section proceeds by outlining the Teague Inquiry's three stages: establishment, investigation, and post-investigation. Reference to Table 4.3. provides a snapshot of key information regarding the Teague Inquiry. This section also outlines the impact of decision-making throughout the Teague Inquiry's entirety.

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<sup>11</sup> The Teague Inquiry's fourth volume provides copies of its statements from lay witnesses. These assist with understanding the contributions that various actors made to the Teague Inquiry's investigation.

**Table 4.3.: Overview of the Teague Inquiry**

<b>Teague Inquiry</b>	
<i>Cost of inquiry</i>	\$37,558,405
<i>Number of recommendations</i>	51 (first interim report); 7 (second interim report); and 67 (final report)
<i>Size of report</i>	1,294 pages (a 350-page first interim report, a 20-page second interim report, a 42-page summary, and a four-volume 882-page final report)
<i>Duration of inquiry</i>	18 months
<i>Number of Commissioners</i>	Three (one chairperson and two deputy-commissioners)
<i>Duration of hearings</i>	155 days
<i>Number of witnesses</i>	434

(Teague 2009a, 2010a, 2010c)

## *Teague Inquiry: establishment*

A public inquiry is established to reflect the concerns and agenda of the government of the day. The first component of any public inquiry is its establishment. Decision-making throughout this stage dictate the direction and focus of its upcoming investigation. Early decisions in a post-disaster inquiry involve the appointment of commissioners and design of its terms of reference, which all impact the success of its investigation and whether its recommendations are supported.

Due to the size and nature of the 2009 bushfires, the Victorian Government faced no opposition in the establishment of the Teague Inquiry. Its terms of reference were set out on 16 February 2009, when then Victorian Governor David de Kretser AC issued the letters patent (Teague 2010b: 1-2). The Teague Inquiry's terms of reference outlined an extensive set of tasks that it was required to inquire into and report on: the causes and circumstances of the 2009 bushfires; the preparation and planning for the fires; all the aspects in response to the fires; measures taken relating to utilities; and any other matters the commissioners considered appropriate (Teague 2010d: 1-2). Its terms of reference directed the commissioners to make recommendations appropriate to any or all of the following areas: preparation and planning for further fire threats and risks; land use planning and management; fireproofing of structures; emergency response; communication; training; infrastructure; and overall resourcing (Teague 2010d: xxv).

The terms of reference act as a framework for the investigation of a royal commission.<sup>12</sup> Decisions over what to include or exclude from a royal commission's investigation are made at this stage. The entire direction and focus of an investigation can be determined by choices made in the formation of its terms of reference.

The Teague Inquiry's terms of reference were established quickly after the 2009 bushfires. Limited knowledge about the full impacts and consequences of the 2009 bushfires is why the Teague Inquiry's terms of reference were kept broad. Despite pointing to several areas that were immediately deemed necessary to investigate, clause five of the Teague Inquiry's terms of reference was included so that the commissioners could investigate any additional matters that they "deem appropriate in relation to the 2009 Bushfires" (Teague 2009a: vi-ix). The Teague Inquiry's commissioners were able to widen its scope according to evidence received from its early consultation. This contributed to the extensive task of the Teague Inquiry's commissioners, especially as they primarily sought for their recommendations

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<sup>12</sup> The Teague Inquiry's terms of reference are attached as Appendix A to this thesis.

to give priority to the protection of human life. However, the achievement of this was difficult, especially as varying vested interests were involved throughout its investigation.

Victorian royal commissions differ because of the need for specific legislation. The absence of legislation enabling the production and tabling of their reports means that the Victorian Parliament must pass specific legislation. Despite establishing the Teague Inquiry earlier, the *Bushfires Royal Commission (Report) Act 2009 (Vic)* passed the Victorian Parliament on 11 June 2009. Its passing provided an opportunity for the Teague Inquiry's reports, once completed to be provided to the Victorian Governor. The *Bushfires Royal Commission (Report) Act 2009* also outlined the process for the publication of the Teague Inquiry's reports, including how the relevant Minister must provide these to the clerks of both houses of the Victorian Parliament. It required the clerks to table the Teague Inquiry's report. The *Bushfires Royal Commission (Report) Act 2009* also authorises the 'printing' of the Teague Inquiry's reports, because only after tabling can its reports be publicly released.

The process of passing legislation through the parliament was a unique feature of Victorian royal commissions, but after the Teague Inquiry this was addressed through the passing of the *Inquiries Act 2014 (Vic)*. When this legislation passed, the establishment of royal commissions in Victoria was made consistent with Australia's other states, because the need for passing specific legislation associated with the development of a report was removed.

Aside from designing its terms of reference, the other task during a post-disaster inquiry's establishment is the appointment of commissioners. Gosnell (1934: 93-94) notes that the membership of inquiries is one of its most important aspects:

[o]nce it has been decided to appoint a commission on a given subject, the next question that arises is its composition. A commission may be a small body of supposedly impartial persons, it may be a small body of experts, it may be a large body of experts, (and) it may be a large body which is representative of all the main interests concerned.

Decisions regarding the appointment of the Teague Inquiry's chairperson and deputy-commissioners were also made quickly after the 2009 bushfires. Despite this, consideration was given to appointing three experts with differing areas of expertise and skills. It was hoped that such appointments would assist the Teague Inquiry in conducting its investigation. The composition of the Teague Inquiry included Bernard Teague AO as chairperson, who was assisted by Susan Pascoe AM and Ronald McLeod AM as deputy-commissioners (Teague 2010a: viii, 54).

Teague is a retired Supreme Court Judge and was selected as chairperson due to his substantial legal background, as such he provided a large assortment of legal and procedural knowledge to its investigation (Teague 2010a: 28). McLeod was appointed as a deputy-commissioner due to his previous



experience as chair of a post-disaster inquiry, namely the McLeod Inquiry (Teague 2010a: 28). He had also served as a senior executive on the Public Service Board. Lastly, Pascoe was appointed as a deputy-commissioner because of her previous experience working within the Victorian State Services Authority (Teague 2010a: 28). Within this organisation, she was responsible for chairing numerous government inquiries into regulatory and organisational matters (Teague 2010a: 28).

The commissioners were given the task of addressing the Teague Inquiry's broad terms of reference, and to formulate recommendations that aim to improve bushfire preparedness and responses in Victoria, but also more widely in other fire-prone regions. They were also required to manage the significant media and community interests that accompanied the Teague Inquiry. Its commissioners primary role was to direct and oversee all matters relating to its terms of reference (Teague 2010a: 9). Part of their task was to rule on applications from parties who sought leave to appear in formal hearings, to consider the evidence presented, to assess the relevance of the evidence, and to determine the importance of evidence to their investigation (Teague 2010a: 9). The commissioners were to ensure that all pertinent lines of inquiry were pursued, as to draw conclusions and make recommendations in accordance with the Teague Inquiry's terms of reference, and to direct, approve, and oversee the writing of reports and their contents (Teague 2010a: 9).

The Teague Inquiry's commissioners held significant power, as such their decision-making throughout its investigation illustrate the impact they have on its outcomes. Selecting the right individuals with appropriate background, expertise, and skills can ensure the scope of an investigation is adequately examined. Public support towards commissioners and perceptions of their independence, impact an inquiry's credibility, which in turn affects the implementation of its recommendations. The Teague Inquiry's commissioners were three individuals who provided differing skillsets to the investigation. Despite McLeod previously chairing a post-disaster inquiry, none of the Teague Inquiry's commissioners held relevant experience in emergency management, nor were they bushfire experts.

Decisions made during the establishment of the Teague Inquiry had consequences on its investigation and recommendations, as such it is important to reflect and ensure that respect, attention, and due diligence was given to these choices. Ramifications of decision-making in the appointment of commissioners and in the design of its terms of reference dictated to what extent the Teague Inquiry and its recommendations were accepted, particularly whether credibility would be associated.

### *Teague Inquiry: investigation*

Following the establishment of a royal commission, attention turns to the undertaking of its investigation. This is a multifaceted stage, where consultation occurs, and the findings and recommendations of a royal commission are reached. The Teague Inquiry is no different and its

investigation included a substantive process of consultation. The submission of statements, as well as the undertaking of multiple types of hearings provided evidence for the Teague Inquiry's commissioners to formulate its findings and recommendations.

Prior to outlining the process and undertakings of the Teague Inquiry's investigation stage, it is important to note that throughout its investigation limited contact between it and Victoria's Government occurred (Teague 2010a: xii-xiii). This was due to the commissioners considering it desirable to preserve the Teague Inquiry's independence (Teague 2010a: xii-xiii). Any contact between the commissioners and the Victorian Government was designed to ensure procedural fairness and efficiency in its process. When required or appropriate, operational matters were discussed with the Victorian Government. These discussion focused on administrative, personnel, and financial considerations, as well as the negotiation to transfer the hearing rooms at the Teague Inquiry's conclusion (Teague 2010a: xii-xiii).

Throughout its investigation, and in the formation of its findings and recommendations the Teague Inquiry saw its work as a catalyst for change (Teague 2010c: 402). However, due to the need to quickly formulate its findings, the commissioners encouraged all those concerned to respond quickly (Teague 2010c: 402). Recognising the time its investigation would take, the Teague Inquiry welcomed several immediate actions that arose from the experience of the 2009 bushfires (Teague 2010c: 402). Due to a clause in the Teague Inquiry's terms of reference, it was required to provide an interim report by 17 August 2009. The interim report outlined findings and recommendations that could be useful for the upcoming fire season, especially those that could not wait until the final report, which was not due till 31 July 2010.

This section discusses the various components of the Teague Inquiry's investigation stage. Throughout the entirety of its investigation, a focus was on formulating findings and recommendations that mitigate or prevent the future impacts of disasters, specifically by improving preparedness, and responses. This section looks at the various methods of consultation utilised by the Teague Inquiry, including submissions of evidence, community forums, and public hearings. It introduces the various actors that were involved in its investigation stage. Following this the key focuses of the Teague Inquiry's investigation are discussed. Finally, the composition of its two interim and final reports are discussed. This discussion reflects on the impacts of the Teague Inquiry's investigation stage on the formation and consideration of its conclusions, findings, and recommendations.

### Consultation: witnesses, submissions, and hearings

The Teague Inquiry used various forms of consultation as it attempted to understand the 2009 bushfires and formulate recommendations that aimed to minimise the risk of similar events reoccurring.

Consultation occurred in various forms, and from its outset, the Teague Inquiry sought to engage with the community, explicitly those who had been affected by the event (Teague 2009a: 84).

The Teague Inquiry begun its investigation by initiating a series of community consultations. The commissioners gave these consultations an immediate priority over any of its work, so that the commissioners could meet with and listen to people from communities that were directly impacted by the 2009 bushfires (Teague 2009a: 84; Teague 2010a: 3-4). While the information obtained was not considered as formal evidence, it did provide great value to the Teague Inquiry by identifying further areas for research and investigation (Teague 2010a: 3-4). The first community consultation occurred on 18 March 2009, with 13 more occurring prior to 8 April 2009 (Teague 2010a: 4). The sessions were open to all who lived or worked in communities that were directly impacted by the 2009 bushfires, with the commissioners estimating that 1,250 people had attended the community consultations (Teague 2009a: 86). Details of the community consultations were outlined in the Teague Inquiry's first interim report (Teague 2009: 84-99).

The community consultation had no designated focus, but all followed a similar structure. Below is a transcript of the introduction that was a standard greeting at all the Teague Inquiry's community consultations:

[w]hy are we here? Why are you here? What do we hope to achieve? We are here to listen to what you choose to tell us about the fires and their impact. We would like to hear your stories and your views on what we can learn from them and what you think matters most.

We are not taking evidence. This is not that sort of process. That will happen later when the formal hearings begin.

The Royal Commission has extremely wide terms of reference. You have a copy of them on the tables. There are many issues we could investigate. We seek your views on the critical issues and the priority we should attribute to them (Teague 2009a: 86).

Beyond its focus on the 2009 bushfires and methods of improving future disaster preparedness and responses, the Teague Inquiry's community consultations provided an opportunity for impacted communities to discuss the future of their regions, to establish an initial plan for recovery, and to assist with healing.

After immediate consideration was given to the community consultations, the Teague Inquiry moved to its next stage of consultation. On 18 March 2009 the commissioners invited the public to put forward written submissions in response to its terms of reference (Teague 2010a: 5). Within two months the Teague Inquiry had received over 1,260 submission that related to at least one of its terms of reference (Teague 2009a: 85). The submissions ranged from brief personal accounts to formal documents from organisations and served multiple purposes, including:

- providing valuable materials from which to isolate topics warranting consideration during the inquiry;
- drawing attention to individuals and organisations with expertise of interest to the commission;
- providing insights into technical matters;
- identifying people who would eventually give evidence as expert or lay witnesses;
- illustrating the wide range of opinions on some subjects;
- and alerting the Commission to research that had been done or technology that was available (Teague 2010a: 5).

The Teague Inquiry's commissioners used these submissions to develop further understandings of the 2009 bushfires, from which it would be able to develop its recommendations and findings. Examination of submissions to the Teague Inquiry allowed for the identification of individuals or organisations with expertise of interest, who the commissioners believed could further contribute to their investigation (Teague 2009a: 104). Submissions came from varying locations, including from communities near to where the bushfires occurred, throughout Victoria, the rest of Australia, and the world (Teague 2009a: 105). Many of the contributions were personal accounts from senior members of the community. These individuals recounted their experience of historical bushfires, such as the 1939 Black Friday and 1983 Ash Wednesday bushfires (Teague 2009a: 105). Submissions were also received from both directly and indirectly impacted businesses, emergency services workers, and from individuals, and organisations with relevant expertise.

From the 1,260 submissions, 15 themes were found to be frequently raised. These themes were labelled in relation to issues raised during the community consultations. The 15 identified themes were:

- what happened – causes and circumstance of the fires;
- emergency management of the fires;
- fire detection (including alternative systems);
- warnings;
- 'stay or go' (including evacuation and fire refuges);
- fire preparedness (including preparing and defending homes and clearing vegetation);
- planning and local government;
- fuel reduction and prescribed burning (including vegetation management on public land);
- building and rebuilding;
- emergency communications (Triple Zero and other emergency service calls);
- essential services during and after the fires (including power, water, and phone coverage);
- economic cost of fires, roads (including roadblocks and inaccessibility of roads during and after the fires); and
- insurance, and recovery (including relief centres, coordination, and Coroner's Office) (Teague 2009a: 106).

Various elements of submissions relating to these key themes were outlined in the Teague Inquiry's first interim report (Teague 2009a: 108-118).

By the time the Teague Inquiry's closing date for submissions of 9 April 2010 was reached, almost 1,700 had been received (Teague 2010a: 5). Once received and considered, these submissions formed part of the Teague Inquiry's investigation and assisted in the formation of its conclusions, findings, and recommendations. Any recommendations or considerations from the Teague Inquiry that related to a specific issue raised through the community consultations and submissions of evidence, were subject to cross examination from the party that had originally raised it (Teague 2010a: 5).

The final component of the Teague Inquiry's consultation process were its public hearings. As with its entire consultation process, community engagement, and transparency were central to its success. The hearings were used as a forum, where the commissioners could substantiate their conclusions and recommendations (Teague 2010a: 8). Oral contributions and submissions were used to expand on and explain any matters that arose from its written submissions. They also enabled the parties to identify areas of agreement with the commissioners that was used to formulate the Teague Inquiry's findings.

The Teague Inquiry sat for over 155 days across five locations (Teague 2010a: 8). These occurred between 11 May 2009 and 26 May 2010 (Teague 2010a: 8). Fundamental to the hearings was that they were transparent and open, but that procedural fairness was given to all witnesses (Teague 2010a: 8). Hearings were divided into subject areas, but its initial focus was on material of benefit to its first interim report, particularly evidence that would assist areas requiring immediate attention before the 2009-10 fire season (Teague 2010a: 9).

A range of methods were used to choose who the Teague Inquiry would involve in its consultation, these included its community consultations, submissions, and research, along with advice from outside parties with special expertise (Teague 2010a: 11). Witnesses were categorised into three types: institutional, expert, and lay (Teague 2010a: 11). Institutional witnesses were those involved in the organisational response to the 2009 bushfires, especially those with a background in emergency management, but telecommunication and electricity experts were also heard from (Teague 2010a: 12). Expert witnesses were those with specific knowledge and expertise in areas relevant to the hearings (Teague 2010a: 12). Lay witnesses gave evidence about their personal experience of the 2009 bushfires, their inclusion ensured that the community impact of the event remained central to the considerations of the commissioners and all involved with the hearings (Teague 2010a: 12-13). The Teague Inquiry hearings heard from over 434 witnesses (Teague 2010a: 76-88). The expertise of witnesses included relevant academics, park rangers, emergency services, building, emergency communication, and land management operators and experts, in addition to those who had directly experienced the 2009 bushfires (Teague 2010a: 76-88).

Research initiated by the Teague Inquiry led to relevant subjects and themes being included in its scope. Various research and discussion papers were prepared into a variety of topics relating to its terms of reference (Teague 2010a: 7). International comparisons with policies in the United States and Canada were also undertaken (Teague 2010a: 7). The commissioners engaged with both Australian and international experts, to assist it with the collection and analysis of background information used to assist with the development of the Teague Inquiry's recommendations (Teague 2010a: 7).

Due to the desire for openness and transparency in the Teague Inquiry's investigation the hearings were broadcast online (Teague 2010a: 9). An exception was made for hearings into fire-related deaths, which the commissioners felt it was inappropriate to broadcast (Teague 2010a: 9). Also, all submissions, except for those where a request had been made for anonymity were posted online and made easily available. Throughout the Teague Inquiry's entire process of consultation, it acted as a forum for experts, organisations, and others to make submissions (Teague 2010a: 7). This allowed for their views, experience, and knowledge to be shared (Teague 2010a: 7).

### Communication and the media

The substantive nature of the Teague Inquiry, along with significant interest in its investigation, required the commissioners to work constructively with the media. Media pressure, from both Australian and international outlets was due to the nature and impacts of the 2009 bushfires (Teague 2010a: 16). The commissioners set out to create an open and constructive relationship with the media, but it noted that this must be achieved without compromising its processes, while at the same time as adequately protecting its witnesses (Teague 2010a: 16).

Extensive knowledge was gained by a regular contingent of journalists, who covered the hearings and directly heard the Teague Inquiry's evidence (Teague 2010a: 17). A number of industry awards were given to journalists in recognition of their dedicated and insightful coverage (Teague 2010a: 16). The scale of the 2009 bushfires and the establishment of the Teague Inquiry were paired with a significant media focus. This focus was aimed at keeping the public informed about the Teague Inquiry and its process. The media coverage of its investigation and findings impacted the general population's perceptions of the Teague Inquiry.

### Teague Inquiry: focuses of its investigation

The Teague Inquiry's focus related to its terms of reference, but were expanded through various consultation with affected communities and stakeholders. The search for answers led to a focus on preparation and planning for bushfires, all aspects of the response to the 2009 bushfires, and any other matter that the commissioners considered appropriate. Deliberations of the Teague Inquiry led to several

of its key themes being associated with the 173 deaths that were caused by the 2009 bushfires. In his submission to the Teague Inquiry, John Handmer notes that discussion of these fatalities relates to levels of preparedness, bushfire awareness, and knowledge, the defence of houses, triggers, and warnings, the significance of wind changes, gender and age differences, and the extent and nature of vulnerable groups (Teague 2010d: 335).

The Teague Inquiry's review of the 2009 bushfires points to some striking contrasts with previous trends during similar disasters. Whereas most men during a bushfire are killed defending their property, a majority of women and children die attempting late evacuations (Teague 2010d: 337). A worrying trend of individuals being caught unaware by a sudden wind change was identified as leading to fatalities, especially as approximately 32 per cent of the 2009 bushfires death toll was caused by late evacuations. While an issue addressed after the Ash Wednesday bushfires, where late evacuation caused a majority of the 75 fatalities, the Teague Inquiry sought to review the policies and procedures around evacuation. Its interim report focused extensively on the 'stay or go' policy that had been developed upon reflection of findings and recommendations of previous inquiries (Teague 2009a: 188-189). However, the Teague Inquiry's commissioners were critical of this, specifically public awareness and interpretations of it (Teague 2009a: 188-190).

Asides evacuation procedures, the Teague Inquiry also reviewed communication. Its focus was on how it could contribute to ensuring effective evacuation. It focused on building upon knowledge and lessons from previous disasters and their inquiries. The Teague Inquiry reinforced that the notion of shared responsibility be central to disaster studies and management (Goode *et al.* 2011: 24). Its reports asserts that the effectiveness of individual Prevention, Preparation, Response, and Recovery (PPRR) is dependent on the success of disaster management arrangements that are implemented by relevant government agencies (Goode *et al.* 2011: 24). The important role that the individual performs in preparing their house, making household bushfire response plans, and understanding the risks involved in deciding to stay and defend their property is stressed (Teague 2010a: 337). Despite shifts towards the concept of shared responsibility, the role of government remains relevant, with an expectation that it provides clear advice on the severity of bushfires and what this means for individual plans. The responsibilities and roles of the Victorian Government, municipal councils, individuals, households, and communities are clearly outlined in the Teague Inquiry's final report.

Leadership during a disaster was a central theme of the Teague Inquiry, particularly as it "found that the heads of the CFA, the DSE and Victoria Police did not demonstrate effective leadership in crucial areas" (Teague 2010c: 70), and that there was a "disturbing tendency among senior fire agency personnel—including the Chief Officers - to consistently allocate responsibility further down the chain of command" (Teague 2010c: 79). The lack of leadership during the 2009 bushfires highlight a concern

over the lack of leadership during Victorian disaster, which it stresses as a critical barrier to effective PPRR. Throughout the Teague Inquiry's investigation, many identified shortcomings were paired with important lessons to help avoid future problems. Poor decisions made by people in positions of responsibility were highlighted, as were those by individuals who sought to protect themselves and their families. Despite this, it concludes that the fires were characterised by many people trying their best under extraordinarily difficult circumstances (Teague 2010b: 4).

The Teague Inquiry placed emphasis on the need to prepare for future similar disasters. Its commissioners were very impressed with the strength and resilience of affected communities, especially when faced with extreme adversity. The Teague Inquiry's report acknowledges that "[...] although some communities were physically destroyed, their members also displayed ingenuity, strength and resolve in the face of this calamity" (Teague 2010b: vii).

The Teague Inquiry's final report notes that "[s]chool education is also a central element [...] in implementing long-term changes" (Teague 2010c: 3). The commissioners recommended that a comprehensive fire education program be implemented as part of Victoria's school curriculum. They reiterate that this should be part of broader community education in the area. This has been a recurring theme within many post-bushfire inquiries, and its adoption was argued to be critical to ensuring communities have the ability to defend their homes. Through their desire for greater communication during a disaster, the commissioners recommend that "the State identify a central point of responsibility for and expertise in mapping bushfire risk" (Teague 2010b: 31). The Teague Inquiry found that "the focus of the warnings issued was far too narrow" and that a higher priority should be given "[...] to warning communities, rather than fire suppression" (Teague 2010c: 3).

The Teague Inquiry's commissioner argued that improved operational performance of Victoria's fire services should be an absolute priority. They view the following as central to addressing the performance of Victoria's fire services: development of common operational policy and standards; stronger coordination; an unambiguous command structure; strengthened capacity to provide an integrated response; and development and implementation of an ongoing reform program (Teague 2010b: 18).

The Teague Inquiry reflected on many of the submissions it received. The themes of these varied, but the following seven were referenced extensively: fuel reduction and prescribed burning; warnings; fire preparedness; planning and local government; 'stay or go'; evacuation and refuges; emergency management of fires; and the causes and circumstances of the fires (Teague 2009: 104-118). A review of the Teague Inquiry's interim and final reports highlights that its broad terms of reference led to its



investigation being extensive. This was exhibited through its wide consultation, through both submissions, and hearings.

### Teague Inquiry: interim and final reports

Central to the success of a royal commission is the public release of its reports, as well as the implementation and acceptance of its conclusions and recommendations. The Teague Inquiry's terms of reference required the commissioners to provide an interim report by 17 August 2009 and a final report by 31 July 2010. The Teague Inquiry also released a second interim report when it viewed that information obtained after its first interim report needed to be made public prior to the 2009-10 bushfire season.

The Teague Inquiry's interim report focused on immediate action required before the 2009–10 bushfire season. This was completed on 17 August 2009 (Teague 2009a) Representing the completion of its first six months, the Teague Inquiry's interim report contained 51 recommendations (Teague 2009a: 2-7). These were developed from its four weeks of community consultations, examination of more than 1,260 submissions, and eight weeks of public hearings that involved 87 witnesses (Teague 2009a: 2-7).

The Teague Inquiry's first interim report was critical of the public warnings provided by the CFA (Teague 2009a: 120-21). The 2009 bushfires affected many communities who were inadequately prepared, with non-existent plans, and warnings systems exacerbating their impact. The Teague Inquiry uncovered that CFA personnel had failed to adequately manage the timing of warnings, which resulted in many people not realising that they were in danger until it was too late (Teague 2009a: 131-33). This was part of the Teague Inquiry's broader focus on issues of accountability that contributed to community healing, but did little to improve preparedness and response.

Among the 51 recommendations included in the interim report were changes to the 'stay or go' policy, which prior to the 2009 bushfires had been misunderstood, especially when the event was predicted to be extreme. The policy had encouraged residents to make a choice between remaining and defending their property against a fire or leaving the property early (Teague 2009a: 27). The 'stay or go' policy's shortened title encourages leaving early being overlooked, which lead to individuals and families evacuating too late (Teague 2009a: 27). The Teague Inquiry concludes that due to 113 people dying in their homes as a result of the 2009 bushfires, many Victorian homes could not be defended against a major bushfire. It recommends that in future residents evacuate early, rather than try to save them.

The Victorian Government pledged to implement all of 51 recommendations of the Teague Inquiry's interim reports. It aimed to do this prior to the beginning of the 2009–10 fire seasons. The Teague

Inquiry was focused on those recommendations that would improve bushfire preparedness and responses.

After publication of its first interim report, several matters arose in relation to building regulations that the Teague Inquiry's commissioners believed required action before the upcoming bushfire season and release of its final report. As a result, it released a second interim report on 24 November 2009: *Interim Report 2 - Priorities for Building in Bushfire Prone Areas* (Teague 2009b). The second interim report was 17 pages and made seven recommendations to do with the need for a national standard for bushfire bunkers and urgent changes to building standards in bushfire prone areas.

The Commission's final report evaluated longer-term issues, such as preventative burning, and housing standards. The final report of the Teague Inquiry contained 67 recommendations, was delivered on 31 July 2010, and represented the culmination of its work. It consisted of four volumes and was supported by a summary document:

- Volume I, *The Fires and the Fire-related Deaths*, describes the fires that burned in Victoria throughout January and February 2009 and summarises the Commission's findings in relation to its evaluation of the 173 associated deaths;
- Volume II, *Fire Preparation, Response and Recovery*, presents the Commission's conclusions and recommendations in connection with fire preparation, response, and recovery.;
- Volume III, *Establishment and Operation of the Commission*, describes how the Commission went about its work; and
- Volume IV, *The Statements of Lay Witnesses*, outlines the statements and associated materials of the 100 lay witnesses who shared with the Commission their experiences of the fires.

The publication of its final report and presentation in parliament signifies the last role of the Teague Inquiry's commissioners. After the report was finalised and its conclusions, findings, and recommendations listed in this, it was the responsibility of the government, along with related agencies, and actors to decide on whether their implementation would occur. Of significance is the time taken to produce the report, with the publication of the Teague Inquiry's final report occurring over 18 months after the 2009 bushfires.

### *Teague Inquiry: post-investigation*

Following the release of its final report, it became the role of government, relevant stakeholders, businesses, emergency services, and communities to implement the Teague Inquiry's findings and recommendations.

The importance of this stage is often neglected, because it is viewed as separate from the establishment and investigation of royal commissions. A reason for this stems from the absence of accountability and

responsibility for the commissioners who formulate the findings and recommendations in their implementation. Despite one of the Teague Inquiry's recommendations seeking the establishment of an implementation monitor, there was an absence of accountability from Teague and his fellow commissioners for the implementation of their findings and conclusions.

This section proceeds by looking at the various recommendations of the Teague Inquiry, as well as considerations of their implementation. It will also look at the evaluation of these recommendations.

### Implementation: recommendations and conclusions

Black Saturday will be remembered as a pivotal point for Victoria in bushfire management. The Teague Inquiry made a total of 125 recommendations in its interim and final reports, as well as expressing a range of views and conclusions (Teague 2009a; Teague 2009b; Teague 2010a; Teague 2010b; Teague 2010c; Teague 2010d). The Victorian Government accepted all of the Teague Inquiry's recommendations and used them as a foundation for making fundamental changes to how it manages bushfires (Sheales 2010). This shift saw Victoria reevaluate many of its long-term policies and move towards greater fire service integration. Through the implementation and consideration of the Teague Inquiry's recommendations, the Victorian Government is embarking on a significant reform program in fire management, which highlights how since February 2009, it intended to continue to invest in, and learn from operational reviews and research.

All 51 recommendations of the Teague Inquiry's interim report were accepted (Teague 2010c: 402). In doing so, the Victorian Government reiterated its support for proposals relating to the preparation of implementation plans, as well as the need to monitor and report on implementation (Teague 2010c: 402-403). The Teague Inquiry reflected on how it developed its recommendations on the basis that they would be accepted (Teague 2010c: 402). It noted that not all post-disaster inquiries have had their findings and recommendations implemented. The successful and effective implementation of the Teague Inquiry's recommendations were argued by its commissioners as essential to protecting lives and making communities safer (Teague 2010c: 402-406).

One outcome of the Teague Inquiry findings emerged from what its commissioners recognise as a lack of coordination between those leading the emergency services response. Contributing to this, evidence found that Victorian police Commissioner Christine Nixon, had at 6pm on 7 February 2009 left the emergency command centre at 6pm to go out for dinner (Ghoukassian 2014). As a result of this, she was later stood down from her position.

A key recommendation of the Teague Inquiry was that the Victorian Government establish an independent implementation monitor to reflect upon the uptake of its recommendations. Recommendation 66 of the Teague Inquiry suggests that:

The State appoint an implementation monitor or the Victorian Auditor-General to assess progress with implementing the Commission's recommendations and report to the Parliament and the people of Victoria by 31 July 2012 (Teague 2010a: 37).

The primary function of the Bushfire Royal Commission Implementation Monitor (BRCIM) was to monitor, review, and report on the progress of government agencies in carrying out their response to the Teague Inquiry's recommendations (Comire 2013: 2014). During its operation, the BRCIM reviewed the progress of the implementation of the Teague Inquiry's recommendations. The BRCIM ensured that the effectiveness and appropriateness of recommendations and conclusions were properly considered, which they believed addressed their issue of reporting from a distance.

The Teague Inquiry's conclusions reiterated the inevitability of bushfires in Victoria, but highlighted the need to ensure that measures are taken to reduce the intensity of bushfires and to protect the community from their impacts. Responsibility for implementing recommendations is shared between different actors. The Victorian Government, its agencies, and local councils have responsibility for minimising the impact of bushfires through: reducing the fuel load on public land, maintaining strategic fuel breaks to protect communities and critical community assets such as water supplies, improving the management of fuel on roadsides, limiting fire starting activities on days with a dangerous fire risk, restricting developments in extreme bushfire risk locations and requiring that buildings be constructed to a standard commensurate with the bushfire risk posed by the surrounding environment, and encouraging people living in unacceptably high bushfire risk areas to relocate to safer areas (Teague 2010b: 20). Better planning and preparation is critical to reducing the consequences of bushfires. The achievement of better planning is dependent on an ongoing effort by individuals, households, communities, municipalities, regions, and government (Teague 2010b: 20).

As part of their reflections on the implementation of the Teague Inquiry's recommendations the Victorian Fire Services Commissioner released a Bushfire Safety Policy Framework. This document's priority is on protecting human life and improving people's safety. It sets out the broad strategic framework for promoting community awareness, understanding, and action, bushfire preparation and planning, and community information and warnings by introducing a broad range of bushfire safety options to assist individuals and communities to make informed decision about their safety. The role of implementing the Teague Inquiry's recommendations, was not just that of the Victorian Government that established it, but of businesses, the emergency services, and communities.

Part of involving other actors in the implementation of the Teague Inquiry's recommendations was ensuring the education of those it desired to involve. The Teague Inquiry recognised this and concluded that the government has an important role in engaging the community to increase knowledge, awareness and understanding of bushfire risks, as well as in how these risks are managed. Accordingly, the Government and fire services will continue their extensive community education and engagement program, as was outlined in the second recommendation of the Teague Inquiry (Teague 2010b: 23). To guard against the risk of growing complacency as memories of the 2009 fires fade, Victoria remains committed to the adoption of the Teague Inquiry's sixth recommendation, which encouraged greater inclusion of bushfire history and safety in the school curriculum (Teague 2010b: 24-25). Recommendation seven was also adopted, as the Victorian Government sought to support the Commonwealth in developing a national bushfire awareness campaign (Teague 2010b: 24-25).

The 2009 bushfires devastated many Victorian communities. Government at all levels, together with the community, and private sectors have made an intense effort to assist communities, households, and individuals to get back on their feet. Victoria's relief and recovery effort was deemed positive, with its remarkable community resilience noted by the Teague Inquiry. However, the longer-term impact of the 2009 bushfires and extended nature of the recovery process should not be underestimated.

The VBRRA was eventually concluded and the Victorian Government established a new Fire Recovery Unit in Regional Development Victoria (FRURDV) as the key contact point for affected communities (Teague 2010b: 16-17). The FRURDV was established to continue to deliver the VBRRA's services with "mainstream" agencies running other continuing services. The transition of these services back into the business of the agencies, was seen by the Teague Inquiry as an important step in the recovery process (Teague 2010b: 16-17).

Critiques of the implementation process adopted by the Victorian Government in response to the Teague Inquiry, focuses on some recommendations not being acted upon. These critiques challenged whether lessons from the 2009 bushfires were being learned.

The outcomes of the Teague Inquiry and the implementation of its recommendations are regarded as the first step in an ongoing process to improve Victoria's ability to live with fire and manage its potentially deadly consequences. Consequently, fire management came under immense public scrutiny and understandably, community expectations rose. This public scrutiny impacted the Teague Inquiry's reports, its findings, and their implementation. Consideration of the implementation of the Teague Inquiry's recommendations illustrates the varied actors and organisations that are involved. These go beyond the Victorian Government that established and was in the end responsible for it.

## Evaluation: recommendations and conclusions

Paired with the implementation of its recommendations is their evaluation. The Teague Inquiry, because it is a post-disaster inquiry that is an evaluation of the previous experience of a disaster. An assumption encouraged throughout this thesis, is that the only way of evaluating whether lessons have been learned from a previous post-disaster inquiry, is the experience of another disaster that test these. The lack of another significant bushfire disaster in Victoria since the implementation of the Teague Inquiry's recommendations means no considerable conclusions can be drawn on their effectiveness. However, the occurrence of less impactful and catastrophic bushfires highlights the impact recommendations of the Teague Inquiry have had.

In July 2014, 11 of the 67 recommendations of the Teague Inquiry were yet to be implemented. The 2014 report of the BRCIM, was positive about the implementation work achieved in response to the Teague Inquiry's recommendations, but noted concerns over inaction in response to findings related to non-residential structures (Ghoukassian 2014).

The Teague Inquiry provides valuable insights into how bushfire management in Victoria can be improved. However, given the inevitability of future bushfires, it is vital that we continue to learn and improve our capacity to live with fire. In response to this, a renewed commitment has been developed to physical, biological, and social research relating to bushfires (Teague 2010b: 37). Research is central to evaluation, reflections, comparisons, and reviews of the 2009 bushfires and associated Teague Inquiry. Evaluation of the 2009 bushfires and the implementation of the Teague Inquiry's recommendations continues.

Various actors had competing interests in the evaluation of the 2009 bushfires and the implementation of the Teague Inquiry's recommendations. Australian state governments have provided their own responses to the Teague Inquiry's recommendations (Queensland Government 2010; Tasmanian Government 2010; Montoya 2010: 13-26).

Every year Victoria experiences a destructive bushfire season, but none have rivalled the catastrophic impacts of the 2009 bushfires. However, due to the destructive impacts of these bushfires, it is obvious that more needs to be done to mitigate their impacts. Australia's continued experience of bushfires, as well as their continued impact leads to suggestions that not enough is being done and that lessons are not being learned from post-disaster inquiries and their recommendations.

## Summary

The scale and intensity of the 2009 bushfires and their catastrophic impacts illustrate why the Teague Inquiry was established. The adoption of post-disaster inquiries is not unique to the 2009 bushfires, notably as Australia has a long tradition of appointing such inquiries. However, few match the size, length, and attention of the Teague Inquiry. This chapter outlined both the 2009 bushfires and the associated Teague Inquiry. In doing so, the impacts of both were discussed.

The 2009 bushfires were catastrophic and are considered one of the worst bushfires disasters not just in Australia's, but the world's history. This chapter considers decisions and actions undertaken before, during, and after the event. It also outlined the locations of the bushfires and their impacts. This helps illustrate the substantial role that the Teague Inquiry faced in examining and evaluating the 2009 bushfires, not just because of the events size, but also due to its catastrophic impacts.

The discussions of this chapter introduced many unique and challenging issues of the 2009 bushfires and the Teague Inquiry. The Teague Inquiry is worthy of comparative analysis to determine its appropriateness and effectiveness, as well as to see if the approach can be improved. Decisions made throughout the Teague Inquiry's establishment, investigation, and post-investigation stages have impacted the extent to which its recommendations and conclusions have informed lessons that improve responses and preparedness, while mitigating or preventing the potential impacts of future bushfires. Questions remain over its success in achieving this, specifically regarding the nature and design of the Teague Inquiry. The design and focus of the Teague Inquiry has been outlined here and these questions dictate the comparative analysis of this thesis, specifically as it seeks to identify recommendations about how post-disaster inquiries can be more effective in achieving their aims.

Central to this question is Australia's continued population growth and settlement in rural-urban areas, where bushfire danger is a real threat, even if they do not realise it. This poses a challenge for post-disaster inquiries. This thesis argues that despite its support for post-disaster inquiries we must find new ways of ensuring their effectiveness in informing lesson-learning following bushfire events, specifically so that their catastrophic impacts do not reoccur.

# **CHAPTER 5**

## **CASE TWO: 2010-11 QUEENSLAND FLOODS**

### **COMMISSION OF INQUIRY**

Beginning December 2010 and proceeding into early 2011, severe flooding adversely affected Queensland. Flooding on Tuesday 11 January throughout south-east Queensland caused major damage, most recognisably in Australia's third largest city, Brisbane. Over the proceeding days, the Brisbane River's banks broke causing major damage to homes, businesses, and infrastructure the in city. Throughout Queensland 38 fatalities occurred; this was paired with over 5,000 homes being flooded, and 21,000 homes being damaged (Holmes 2012a: 32-37). Over 90 Queensland towns and approximately 900,000 people were directly affected by the 2010-11 floods (Holmes 2011: 24-27). Three-quarters of Queensland's council areas were declared disaster zones, with floods occurring along the Fitzroy, Burnett, Condamine, Balonne, and Mary rivers, which all impacted nearby communities (Holmes 2011: 25).

Despite it being the driest inhabited continent on Earth, Australia continues to experience severe flooding (Bureau of Transport and Regional Economics 2002: 1-2). Australian floods caused 951 fatalities between 1852 and 2011, while another 1,326 individuals were significantly injured (Carbone and Hanson 2012). Between 1852 and 2011 the cost of flooding and its associated damage reached an estimated A\$4.76 billion dollars (Carbone and Hanson 2012).

Rising water levels inundated rivers, lakes, and homes throughout Ipswich, Brisbane, and the surrounding regions were caused by thunderstorms that drifted along Queensland's east coast (Holmes 2011: 25-27). Flooding resulted from water levels overflowing the banks of the Brisbane River, which occurred due to high rainfalls that caused key dams in south-east Queensland to surpass their flood mitigation capacity (Holmes 2011: 27). It is not unusual for severe weather patterns to cause flooding across Australia, particularly in Queensland and the Northern Territory.

The scale and intensity of the 2010-11 floods are why the Queensland Government established a commission of inquiry to investigate the catastrophic event (Holmes 2011: 20). The ability for the Holmes Inquiry to inform lesson-learning through the implementation of its recommendations is investigated through the discussion of decision-making throughout its establishment, investigation, and post-investigation stages.

This chapter outlines the Holmes Inquiry, but prior to this it provides background information regarding Australia's previous experiences of catastrophic flooding. The discussion focuses on the causes and



effects of flooding, it then moves on to provide a snapshot of Australian experiences of flooding, particularly similar events to the 2010-11 floods. This chapter outlines the 2010-11 floods, including the location, and impact of the various floods. It also looks at the response and recovery efforts that followed the 2010-11 floods. Lastly, this chapter outlines the Holmes Inquiry through a discussion of decision-making during its establishment, investigation, and post-investigation stages. It addresses the effectiveness, appropriateness, and usefulness of the Holmes Inquiry in identifying and informing lessons that improve future flood preparedness and responses.

## **Floods in Australia: a snapshot**

Flooding occurs when water covers an area of land that it does not normally cover (European Union 2007: 3). Fatalities, the displacement of communities, damage to the environment, compromised economic development, and weakened economic activities of the community are all impacts of flooding (Holmes 2011: 24-27). Flooding is most often a natural phenomenon that cannot be prevented, but through changes in human behaviour and by gaining a greater understanding of its impacts, these can be mitigated (Middleman 2007: 61). Increasingly human settlements and areas providing economic assets to governments, businesses, and communities are developed on floodplains, which along with climatic changes increases the likelihood and adverse impacts of flood events (European Union 2007: 1). In considering the impact of a flood governments and communities must consider the adverse consequences of this for human health and life, the environment, cultural heritage, economic activity, and infrastructure (European Union 2007: 1).

Floods are most frequently caused by high levels of precipitation that are a result of an unusually heavy rainfall (Holmes 2011: 24). Flooding in northern Australia is often the result of tropical cyclones or other large storms (Middleman 2007: 60). In south-east Australia, flooding is usually caused by low-pressure systems that develop in the late winter and spring, but some strong tropical systems impact the area as well (Holmes 2011: 24). Flooding more commonly occurs during La Niña years, when Australia experiences heavier than normal rainfalls (Holmes 2011: 24; Glantz 2001: 29-30). A less common cause of flooding is when seawater rises onto dry land (Kusky 2010: 112). This occurs when low-pressure systems turn into tropical cyclones, causing a storm surge to inundate an area of land. Tsunamis or giant waves created by earthquakes, volcanic eruptions, or meteor collisions also cause flooding (Kusky 2010: 126). Flooding results from water overflowing the banks of rivers and lakes, because this allows water to escape its usual boundaries (Holmes 2011: 24-25). An accumulation of rainwater on saturated ground during a flood also causes water to escape its usual boundaries (Holmes 2011: 24-25). The size of rivers and lakes vary as a result of seasonal changes in precipitation or due to melting snow, but these changes in size are considered minor and only in rare occurrences do they flood property, drown livestock, or displace humans (Kusky 2010: 31).

Understandings of the 2010-11 floods highlight the potential impact of dam failure in flooding, which is rare, but occurs when they that are built on rivers to generate hydroelectric power and when their ability to reduce their severity downstream fails. Downstream flooding from a dam is normally due to poor engineering or an earthquake (Holmes 2011: 45).

## *Floods in Australia*

The frequency and intensity of tropical cyclones and severe storms throughout Queensland, as well as in the Northern Territory increases its vulnerability to flooding (Middleman 2007: 61-62). Flooding is part of Australia's natural environment, water, or hydrologic cycle, and assists with replenishing ground water, lakes, and rivers. The variability of rainfall in Australia is among the highest in the world, which is due to the dominant influence of the El Niño–Southern Oscillation (van den Honert and McAneney 2011). Australia's climate is characterised by wet and dry periods, with sudden transitions between the two often frequently occurring and causing significant weather events (Pittock *et al.* 2006: 13-14).

Due to ill-informed decisions in early European colonisation, flood hazards have been a large part of living in Australia. These ill-informed decisions arise from a lack of knowledge about the potential intensity of infrequent floods and the choice to settle in unsuitable low-lying areas have increased the impact of flooding (Nicholls *et al.* 2007). Subsequent human development has occurred on higher ground and has included the building of dams, flood diversion channels, and levees. These have greatly reduced the potential for flood hazards to occur (Middleman 2007: 74). Despite attempts at mitigation, the estimated average annual cost of flooding between 1967 and 1999 in Australia was A\$314 million, exceeding that from severe storms (A\$284 million), cyclones (A\$266 million), and bushfires (A\$77 million) (Gentle, Kierce, and Nitz 2001).

## *Previous Australian Floods*

Over the last 150 years' every Australian state has experienced at least one dangerous flood. Many of these have caused fatalities, the destruction of private property, landmarks, and key infrastructure, and/or damage to the environment. The following section introduces some of Australia's most significant floods, both in terms of fatalities and destruction.

### 1852 Gundagai New South Wales Floods

Gundagai is a small town in NSW that was built during the 19<sup>th</sup> century along the Murrumbidgee River. In June 1852, flooding of the Murrumbidgee River swept away most of Gundagai and left just three houses standing (Sidney 1853: 168). This event caused 89 fatalities, which was more than a third of

Gundagai's population, with other community members left traumatised by the flooding and its impacts (Sidney 1853: 168).

No inquiry followed the Gundagai Floods, but due to most of the town being destroyed, the decision was made to rebuild it on higher ground (CSIRO 2000: 48). This was the NSW government's response to criticisms and concerns over Gundagai being built on the banks of the Murrumbidgee River during what was one of the 19<sup>th</sup> Century worst droughts (Solomons 2012; CSIRO 2000: 48).

### 1916 Queensland Clermont and Peak Downs Floods

On 27 December 1916 a cyclone occurred along the Queensland coast, causing heavy rainfall in the Clermont, Sapphire, and Peak Downs regions (Solomons 2012). A failure to counter the runoff of nearby catchments and creeks caused 65 fatalities and widespread damage (Miller 2010: 21). The force and speed that debris and water swept through the region led to the partial submerging of the township of Clermont (Miller 2010: 21).

In response to the disaster, assistance was given to those affected and Clermont was rebuilt on higher ground (Miller 2010: 21). This rebuild recognises the dangers of building in floodplain areas, in addition to highlighting the need for strategic management and planning in the design, construction, and choice of location for towns, cities, and key infrastructure (Miller 2010: 21).

### 1929 North-Eastern Tasmanian Floods

Northern Tasmania is prone to the experience of heavy rainfall over short periods (Miller 2010: 27). In April 1929, approximately 500mm of rain fell over three days across north-east Tasmania, inundating the region (Mannix 2012:4). The floods were predicted when it was noted that "[b]arometers are now falling, due apparently to the southward movement of the depression, and further rain is to be expected, with the probable flood falls in the north-east" (Maiden 2009). As floodwater crossed the region everything in its path was destroyed, including vehicles, buildings, bridges, homes, and livestock. Approximately 3,500 people were evacuated, with the flooding caused 22 fatalities (Solomons 2012).

The 1929 Tasmanian floods prompted the construction of flood levees in Launceston, so as to ensure that it remained an important economic centre in northern Tasmania (Solomons 2012).

### 1955 New South Wales Hunter Valley (Maitland) Floods

In February 1955, an estimated 15,000 people were evacuated from the towns of Singleton and Maitland. While the 1955 Hunter Valley floods caused a further 40,000 people to be evacuated from 40

nearby towns (Carbone and Hanson 2012). A monsoonal depression, moving south from Queensland dumped 250mm of rain in 24 hours over the already-saturated Hunter region (Miller 2010: 50). The Hunter and several west flowing rivers, swiftly rose to record levels, flooding the surrounding region. In Maitland alone, 2,180 homes were flooded, while 58 homes were swept away and 103 were damaged beyond repair (Miller 2010: 50). The Hunter Valley floods have become symbolic in Australia, due to the dramatic nature of associated flood damage and rescues.

### 1974 Brisbane Floods

Tropical Cyclone Wanda hit Brisbane's northern suburbs on 25 January 1974 and by 29 January over 900mm of rain had fallen (CSIRO 2000: 81-82). Over 314mm of rainfall occurred over this 24 hours period (CSIRO 2000: 81-82). One-third of Brisbane's CBD and 17 suburbs were severely flooded during the 1974 Brisbane floods, which caused 14 fatalities and over 300 injuries (Carbone and Hanson 2012). The floods destroyed 56 homes and caused damaged to nearly 600 more (Carbone and Hanson 2012). In the coming months, the torrential rain swept down Australia's east coast and caused further flooding in NSW and Tasmania.

In response to the 1974 Brisbane floods, a series of flood mitigation measures were implemented throughout south-east Queensland (CSIRO 2000: 81-82). The floods were a defining event for a generation of Brisbane residents and had immense economic implications for the city and Queensland more widely, most notably due to the loss of key export infrastructure.

### 2010-11 Victorian Floods

January 2011 represented Victoria's wettest period in recorded history (Comrie 2011: 17). A deepening low-pressure trough across south-east Australia, paired with tropical moisture from the monsoon trough over northern Australia, resulted in Victorian experiencing record levels of humidity. This resulted in heavy rains and severe thunderstorms, which occurred across the state (Comrie 2011: 17-18). Victoria endured what Premier Ted Baillieu describes as "one of the biggest floods in the state's history" (Willingham 2011). Bureau of Meteorology forecaster Terry Ryan said, "[i]t's the worst flood in western Victoria in their history as far as our records go in terms of the depth of water and the number of places affected" (Turnbull 2011).

The 2010-11 Victorian floods occurred shortly after the 2010-11 floods, causing two fatalities and an estimated A\$2 billion worth of damage (Comrie 2011: 19). The response from government differed strongly to that of Queensland, but Victoria was assisted by the Australian Defence Force (ADF) (Comrie 2011: 29). The ADF were deployed throughout Victoria to assist with various preventative and relief efforts. Premier Baillieu was critical of the Commonwealth Governments failure to offer similar

support to that which Queensland were provided after the 2010-11 floods, particularly he advocated for something similar to the Gillard initiated Queensland Flood levy (Rout 2011).

In response to the 2010-11 Victorian floods, the Victorian Government established an inquiry that was chaired by former Victorian Police Chief Commissioner Neil Comrie (Comrie 2011: 3). Comrie produced an interim and final report as part of *The Review of the 2010-11 Flood Warnings & Response Victorian Floods Review*. The Comrie Inquiry reached similar conclusions to the Teague Inquiry about the shortcomings of Victoria's emergency management arrangements (Comrie 2011: 4). Comrie (2011: 5) believed that the implementation of his recommendations would lead to significant improvements in Victoria's capacity to deal with future disasters (Comrie 2011: 5).

## **2010-11 Queensland Floods**

In November and December 2010, higher than average rainfall was experienced, with approximately 300mm of rain falling throughout central Queensland (van den Honert and McAneney 2011: 1158). The evacuation of thousands of people from towns and cities, including Brisbane occurred after further rainfall throughout Queensland's south-east. In January 2011, over three-quarters of Queensland was declared a disaster zone, with the state requiring significant input to help it rebuild and respond, especially with early estimates of the flooding's cost estimated at over A\$4 billion (van den Honert and McAneney 2011: 1162-1163). This section details the weather and land conditions before and after the flooding, its damage and impact, the relief and recovery efforts following its occurrence, and the response of governments, which all formed part of the 2010-11 floods.

### *Weather Conditions*

An extremely wet spring prior to the December 2010 and January 2011 rains had left catchments saturated (Holmes 2012: 2). Excessive rainfall over December and into the first half of January resulted in nearly every Queensland river to the south of the Tropic of Capricorn, as well as to the east of Charleville and Longreach, recording heightened flood levels (Holmes 2011: 24). Throughout the second half of 2010 and in early 2011 one of the four strongest La Niña events since 1900, caused the 2010-11 floods (Holmes 2011: 24).

Between Friday 7 January and Sunday 9 January 2011, a low-pressure system moved in a southerly direction from east of Mackay to an area north-east of Fraser Island, before moving closer to the coast on Monday 10 January 2011 (Holmes 2011: 26-27). Early on Sunday 9 January 2011, the low-pressure system combined with an upper level trough to deliver heavy rainfall to south-east Queensland. This rainfall continued for much of the day and led to very high-water levels in the Somerset and Wivenhoe

dams (Holmes 2012: 436-438). Downstream from the dams, areas in the lower Brisbane River catchment also experienced significant rainfall, but this decreased as water flowed to the south and east. The Lockyer Creek catchment recorded rainfalls of close to 450 mm, with the river catchments near the southern and eastern suburbs of Brisbane experiencing the lowest rainfalls (Holmes 2011: 229-230). The amount of water in these catchments and rivers led to severe flooding across south-east Queensland, especially in Brisbane. The flooding also affected other parts of Queensland, northern and western Victoria, inland NSW, and northern Tasmania.

### *Floods and Locations*

After experiencing its wettest December on record, more than three-quarters of Queensland was affected by the unprecedented 2010-11 floods (Chanson 2011: 5). Chanson (2011: 5) considers the flooding unprecedented due to the numerous water level records that the 2010-11 floods broke. Further understandings of the reasons behind the flooding and their various locations throughout Queensland illustrate the significance of the event, its size, and the extent of its damage. A discussion of this is presented in this section.

Throughout January 2011 heavy rainfall and flooding was widespread in Queensland, specifically in its south-east corner (Chanson 2011: 6). Most of the destructive flooding occurred during the second week of January, with flash flooding throughout the Toowoomba Range and upper Lockyer Valley causing fatalities on Monday 10 January (Holmes 2011: 26-27). Over the preceding days flooding occurred at Helidon, Gatton, Flagstone Creek, and along the Lockyer Creek (Chanson 2011: 6). This was paired with heavy rainfalls along the Brisbane River and Bremer River, which caused flooding in their upper catchments (Chanson 2011: 6).

The 2010-11 floods impacted several river basin and catchments across Queensland, including along the Fitzroy River, Burnett River, Balonne River, and Mary River, across Toowoomba and the Lockyer Valley, and in the Brisbane catchment (Holmes 2011: 25-27). The severity of the flooding depended on the level of rainfall, its location, and impacts.

Late December 2010 flooding in the Burnett River Basin left the towns of Gayndah and Mundubbera inundated with water (Holmes 2011: 25). The Burnett River peaked at 18.25 metres, causing approximately 20 homes to be inundated by water (Holmes 2011: 26). The towns of Gayndah and Mundubbera were isolated for several days, with the flooding causing a major disruption to the region's water supply and its local agricultural industry (Holmes 2011: 26). Rockhampton, Emerald, and Theodore were impacted by the flooding of the Fitzroy River Basin and an initial evacuation of 1,000 residents occurred across the impacted region (Holmes 2011: 25-26).

Flooding of the Condamine/Balonne River basins inundated the towns of Chinchilla and Jericho (Holmes 2011: 26). Over 40 residents were evacuated from the towns, with the flooding cutting off its roads and isolating the town of Warwick (Holmes 2011: 26). Residents of Chinchilla were forced to evacuate again, when another significant rain event occurred on the 9 and 10 January 2011 (Holmes 2011: 27).

Heavy rain in the Mary River basin on the 8 and 9 January 2011, led to flooding at Maryborough and Gympie, which caused several houses and businesses to be inundated by water (Holmes 2011: 26-27). Heavy rainfall in Toowoomba, resulted in four fatalities and forced the evacuation of hundreds of people (Holmes 2011: 26). Flooding also impacted Grantham, with a surge of water devastating the region (Holmes 2011: 26). Flood waters reached a height between seven and eight metres, causing nine fatalities, with one victim's body recovered 80 kilometres downstream.

On 11 January 2011, flooding began to impact low-lying areas of Brisbane (Holmes 2011: 27). By early afternoon the banks of the Brisbane River had broken and residents of 2,100 Brisbane streets were advised to evacuate (Holmes 2011: 27). The flooding impacted over 20,000 houses in Brisbane, with St Lucia, West End, Rocklea, and Graceville some of the city's most affected suburbs (Holmes 2011: 27).

### *Dam Management and Water Loads*

Much of the flooding caused by the 2010-11 floods occurred in rivers. These were caused by rising water levels that flowed downstream impacting various communities. Heavy rainfall was not an exclusive reason for the 2010-11 floods and it is important to understand the role of dams, specifically the Brisbane and Wivenhoe dams, and how this contributes to the flooding.

Dams serve two often contradictory purposes (Holmes 2011: 37). First, they serve as a buffer against drought, meaning that it is desirable to keep the dam as full as possible in case of low future rainfall (Holmes 2011: 37). Many dams are built to provide a buffer against floods. As such, it is desirable to keep these as empty as possible as a way of maximising the flood water (Holmes 2011: 37). Achieving both these purposes is not simultaneously possible, but there is a requirement for engineers to balance these conflicting objectives in the operation of a dam.

Seqwater was established in November 2009. Its purpose is to act as the statutory authority responsible for bulk water supply to south-east Queensland (Holmes 2011: 34). Changes to the roles and responsibilities of SeqWater have been mirrored in legislative and policy changes. The authority of SeqWater is established through the *South East Queensland Water (Restructuring) Act 2007 (Qld)* (Holmes 2011: 34). Seqwater is responsible for managing the operation of 26 dams across south-east

Queensland, which includes the Somerset and Wivenhoe dams (Holmes 2011: 34). The Somerset and Wivenhoe dams are flood mitigation dams, as such their operation is subject to the flood mitigation manual (Holmes 2011: 36-37). The manual sets out a series of strategies to reduce flooding in urban areas on floodplains (Holmes 2012: 443). Key to the decision-making of dam operators during a flood is to ensure the structural safety of the dams, to provide optimum protection to urbanised areas from water inundation, to minimise the disruption to rural life through the valleys of the Brisbane and Stanley Rivers, to retain storage at full supply level at the end of a flood event, and to minimise the impact to flora and fauna during the drain down phase of the flood (van den Honert and McAneney 2011: 1157).

The strategies adopted at the Wivenhoe Dam, before and during the January 2011 floods, were questioned through a study conducted by *The Australian* newspaper (Holmes 2012: 439-440). The investigation suggested that the responsible flood engineers had not adequately and efficiently transitioned through stages of the flood mitigation manual (Holmes 2012: 439).

The Wivenhoe Dam is located along the Brisbane River in south-east Queensland and is approximately 80 kilometres from the centre of Brisbane (Holmes 2011: 39; van den Honert and McAneney 2011: 1151). It provides the main supply of potable water to the Brisbane and Ipswich regions (van den Honert and McAneney 2011: 1151). The Somerset dam is located across the Stanley River in south-east Queensland. The dam is located approximately 115 kilometres' north-west of Brisbane (Holmes 2011: 38). It provides the main supply of potable water to Brisbane, the Gold Coast, and Logan City regions. Both dams are also used for flood mitigation and for the generation of hydroelectricity (Holmes 2012: 436-437).

The Insurance Council of Australia (ICA) appointed hydrologists to investigate events leading to flood damage claims in Brisbane, Ipswich, Toowoomba, and the Lockyer Valley. It concluded that the Brisbane flood event was a dam release flood (ICA 2011: v, 1). The ICA's conclusion asserts that the release of water from the Wivenhoe Dam was a key contributor to the downstream flooding on 11 and 12 January 2012, but they were quick to assert that this does not imply fault (ICA 2011: v). The operating manual of the dam reinforces when strategic releases of dam water should occur and the Holmes Inquiry asserted that despite suggestions that the release of water from the Wivenhoe Dam caused downstream flooding, all decisions were made in accordance with its operation manual (Holmes 2012: 453).

### *Damage and Impacts*

The 2010-11 floods affected over 2.5 million people and impacted an area of land larger than Germany and France combined (Holmes 2012: 32). Unable to cope with the volume of water; creeks, rivers, and lakes burst their banks and pushed water into areas causing considerable damage. The speed and



intensity of the flash flooding meant that little time was available for warning, which was particularly important as over 29,000 homes were inundated by water (Holmes 2012: 32). As of 28 January 2011, 35 fatalities were attributed to the floods, 21 of which were from Toowoomba and the Lockyer Valley area (Holmes 2012: 390). An additional nine people were listed as missing, but three of these were later officially declared dead.

More than 200,000 people were affected by the floods, with 3,570 businesses left inundated by flood water (van den Honert and McAneney 2011: 1163). Over 19,000 kilometres of roads and approximately 28 per cent of Queensland's rail network was damaged by the 2010-11 floods, with three major ports significantly impacted (van den Honert and McAneney 2011, 1163). The 2010-11 floods caused major damage to many dwellings, with 28,000 homes being required to be rebuilt (van den Honert and McAneney 2011: 1163).

The floods were estimated to cost the Australian economy at least A\$10 billion and impacted various industries, including mining, agriculture, and tourism (van den Honert and McAneney 2011: 1163). ICA reported that almost 56,200 claims were received by insurers, at a cost of A\$2.55 billion (van den Honert and McAneney 2011: 1163). The flood impacted the production of fruit and vegetables, which forced food prices to increase. Around 15 percent of Queensland's annual coal production output was lost, but by late March 2011 recovery was slowly progressing (Queensland Treasury 2011). Four months after the floods, the Dalrymple Bay coal terminal was operating at half its capacity, because of issues associated with de-watering, which had an economic impact on Queensland and the rest of Australia (Queensland Treasury 2011).

### *Relief and Recovery*

After the 2010-11 floods, a civilian recovery taskforce was established and led by Major General Michael Slater. The taskforce was later replaced by the Queensland Reconstruction Authority (QRA), whose role was to coordinate the reconstruction of buildings and key infrastructure damaged by the 2010-11 floods (QRA 2012). The QRA was established in response to a series of natural disasters between November 2010 and April 2011 that occurred in Queensland. Its vision was to build a more disaster-resilient Queensland (QRA 2012). In June 2015, the role of the QRA was expanded to include the administration of earlier and subsequent events. At the same time, the Queensland Government made it a permanent organisation.

The ADF contributed to the immediate flood relief, with its deployment the largest since Cyclone Tracey in December 1974 (The Sydney Morning Herald 2011). NSW provided 35 SES personnel to support the relief of exhausted staff and volunteers, while Victoria provided 20 personnel (Bligh 2011).

New Zealand supported the recovery effort through the deployment of civil defence teams (Williamson 2011).

The Queensland Government drew criticism from the former deputy director of the NSW State Emergency Service (SES) Chas Keys (Keys 2012: 1). He notes how appalled he is by land management and building regulations in Queensland, which had allowed a number of new houses that were flooded to be built in the first place (Keys 2012). Keys (2012: 3) labels Queensland's regulations for building homes as poor, because it continued to allow the development of infrastructure in inappropriate areas without significant mitigation of known risks. In doing so, the approach to building in known flood-prone regions was contrasted with those used in NSW after the 1955 Hunter Valley floods (Keys 2012: 3). After 1955, houses were relocated from dangerous areas and new warning systems were established. However, Keys (2012:3) highlights how these NSW practices were being undone by reduced funding and unsafe housing developments, providing the example of Maitland, where the council wants to build hundreds of dwellings on floodplains in and around the CBD.

On 8 July 2014 Maurice Blackburn, a legal firm, lodged a class action with the NSW Supreme Court on behalf of 4,000 flood victims (Hall 2014). The legal action alleged negligence and nuisance against those responsible for the operation of the dams, SeqWater, SunWater, and the State of Queensland (Hall 2014).

The 2010-11 floods caused an unprecedented level of coverage across Australia's major television networks (Bruns *et al.* 2012: 11). ABC News 24 provided extensive coverage of the December 2010 floods. Their coverage increased after the events of January 2011 (Bruns *et al.* 2012). Social media had a noteworthy role in the 2010-11 floods, especially as over a six day period from 10 January 2011, 35,000 tweets using '#qldfloods' were made (Bruns *et al.* 2012: 23). Official police media accounts were the most influential voices on the medium, while emergency services media accounts were the most visible participants in the '#qldfloods' discussion (Bruns *et al.* 2012: 7). Many of their messages widely retweeted and shared (Bruns *et al.* 2012: 7). Media coverage, particularly through social media, is an important tool for distributing important information during a disaster, but can also shapes public perceptions of the event through inaccurate information (Carvalho and Burgess 2005: 1457-1458).

Following the 2010-11 floods, the response from Queensland and Australian communities was substantial, with over 55,000 volunteers registering to assist with the recovery (van den Honert and McAneney 2011: 1163). They were assisted by thousands more unregistered volunteers (van den Honert and McAneney 2011: 1163). A series of sporting events combined to raise much needed funds to support recovery efforts. A flood relief telethon broadcast by the Nine Network. This raised more than

A\$10 million for the recovery effort (ABC Online 2011). The response to the 2010-11 floods demonstrates an overwhelming level of community involvement.

### *Government Responses to Floods*

Australian Prime Minister Julia Gillard announced the establishment of a Commonwealth Government initiated flood levy, which was a temporary tax to fund the reconstruction of Queensland following the 2010-11 floods (Valle de Souza, Kinoshita and Dollery 2015: 77-78). The proposal passed parliament on 22 March 2011 and applied to anyone with a taxable income of more than A\$50,000 a year (Valle de Souza, Kinoshita and Dollery 2015: 77-78). To gather enough support in parliament to pass the legislation, the government promised to rewrite the terms of the Natural Disaster Relief and Recovery Arrangements.<sup>13</sup> The changes would ensure that state and territory governments take out disaster insurance or establish an equivalent fund.

The Queensland Government was supportive of the introduction of a flood levy, but also responded independently to the 2010-11 floods. Other than the establishment of the QRA and deployment of the ADF and SES, the Queensland Government announced the establishment of the Holmes Inquiry (Holmes 2011: 20). The Holmes Inquiry was provided a specific, yet wide-ranging term of reference and was required to produce a final report within twelve months (Holmes 2011: 20). An interim report was released prior to the 2011-12 wet season, it contained recommendations relevant to improving flood preparedness and responses. The following section introduces and outlines the Holmes Inquiry, explicitly its establishment, investigation, and post-investigation stages.

## **2010-11 Queensland Floods Commission of Inquiry**

The 2010-11 floods caused widespread flooding, most notably in Brisbane and the Lockyer Valley. It gained significant national and international attention. In response to the event, Queensland Premier Anna Bligh established the Holmes Inquiry to investigate the circumstances surrounding the catastrophic 2010-11 floods (Holmes 2012: 32).

The Holmes Inquiry's final report was provided to the Premier and publicly released on 16 March 2012. Its release was during the 2012 Queensland state election, but its recommendations were considered and accepted in full by the new Liberal-National Government. By the time the Holmes Inquiry's investigation was completed, it had produced an interim and final report. The final report was a 650-page document that contained 177 recommendations (Holmes 2012). These recommendations related

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<sup>13</sup> Funding to help pay for natural disaster relief and recovery costs, is provided to the states and territories by the Australian Government through the Natural Disaster Relief and Recovery Arrangements.

to its terms of reference and reflected the conclusions and findings reached throughout the Holmes Inquiry's investigation.

To understand this impact and the potential of it, an outline of the Holmes Inquiry is provided through a discussion of its establishment, investigation, and post-investigation stages. Table 5.1. provides an overview of the Holmes Inquiry and its information contributes to the following section's discussion.

**Table 5.1.: Summary of 2010-11 Queensland Floods Commission of Inquiry**

<b>Holmes Inquiry</b>	
<i>Cost of inquiry</i>	\$15,000,000
<i>Number of recommendations</i>	interim report: 175; final report: 177
<i>Size of report</i>	interim report: 262 pages; final report: 654
<i>Duration of inquiry</i>	14 months
<i>Number of Commissioners</i>	Three (one chairperson and two deputy-commissioners)
<i>Duration of hearings</i>	68 days
<i>Number of witnesses</i>	345

(Holmes 2011, 2012)

## *Holmes Inquiry: establishment*

The Holmes Inquiry was established under the *Commissions of Inquiry Act 1950 (Qld)*, as an independent investigative body with wide-ranging powers of investigation (Holmes 2012: 33). Serving Justice Catherine Holmes was appointed its chairperson, but this action was criticised by the Bar Association of Queensland, who questioned the choice and highlighted a series of risks:

[s]ince 1987 the Queensland judiciary has adhered to a convention that a serving judge ought not accept appointment to head a commission of inquiry [...] It is clear that the present inquiry involves real potential for political controversy as to administrative conduct of successive state and local government administrations since (the last major flood in) 1974 ... It must be recognised that commissions of inquiry, by their nature, will find themselves examining issues of a character not contemplated upon commencement. The issues for inquiry may become far more politically charged than first imagined. (The Australian 2011a).

Despite questions over her appointment, Holmes held a level of experience in undertaking inquiries, as she had served as counsel assisting the Leneen Forde led *Commission of Inquiry into Child Abuse* (Queensland), which highlights an awareness of techniques and processes required to conduct this style of investigation.

Prior to the Holmes Inquiry's commencement, James O'Sullivan AC and Phillip Cummins were appointed as its deputy-commissioners (Holmes 2012: 33). O'Sullivan is a former Queensland Police Commissioner, who had served for over 40 years in rural and regional Queensland as part of its Police Service (Holmes 2011: 20). Cummins was appointed because he is an Australian engineer, with specialities in dam safety and river management (Holmes 2011: 20). His significant expertise was further developed through various overseas experiences and as Chairman of the international Committee on the Operation, Maintenance, and Rehabilitation of Dams (Holmes 2011: 20).

Cummins' position as commissioner was questioned, when in early February 2012, it was revealed that he had been engaged by SeqWater to act as consultant after the Holmes Inquiry's conclusion (Holmes 2012: 35). This represented a clear conflict of interest, which after it became publicly known led to Holmes announcing that Cummins would not attend any future hearings involving SeqWater, nor would input be taken from him on the development of findings and recommendations relevant to the organisation (Holmes 2012: 35).

To assist the commissioners in their investigation, a series of barristers as counsel were appointed to assist the Holmes Inquiry. Peter Callaghan SC and Elizabeth Wilson SC were the first two barristers appointed to assist counsel, and they were later joined by Kerri Mellifont SC and Nicole Kefford (Holmes 2012: 33). Other staff were drawn from different relevant fields of expertise, including those with legal, policy, research, and policing knowledge (Holmes 2012: 33). The Holmes Inquiry's

commissioners encouraged engagement with actors from areas where advice could be provided, specifically in hydrology and town planning matters. The Holmes Inquiry's report includes a list of experts it engaged in its appendix (Holmes 2012: 33).

The work of the Holmes Inquiry, its commissioners, and staff was outlined in its terms of reference, which were published on 17 January 2011 (Holmes 2011: 251-254).<sup>14</sup> Its terms of reference formalised the appointment of its commissioners and outlined what areas the Holmes Inquiry was required to investigate. The Holmes Inquiry was required to make recommendations on these areas.

Its terms of reference granted specific powers to the Holmes Inquiry's commissioners that assisted with their investigation. While these covered a wide range of topics relating to the 2010-11 floods, these were all listed in the Holmes Inquiry's terms of reference.

### *Holmes Inquiry: investigation*

Following its establishment in January 2011 the Holmes Inquiry set out to conduct its investigation. Initially its commissioners chose to visit the Lockyer Valley twice in January 2011, so as to see firsthand the immediate effects of the devastating flash flooding that occurred on 10 January 2011 (Holmes 2012: 33). This was part of the commissioners' attempts to better understand the devastation caused by the 2010-11 floods that they viewed would assist with developing their recommendations and conclusions. Once this was formalised, the Holmes Inquiry's commissioners sought to undertake a long process of consultation with relevant experts and witnesses.

### Consultation: witnesses, submissions, and hearings

The Holmes Inquiry's commissioners used various consultation methods. However, the Teague Inquiry began its investigation stage with a series of community consultation sessions, which were held in Grantham and Murphy's Creek (Holmes 2012: 33). No formal evidence was taken at these meetings, but it was a useful way for the Holmes Inquiry's commissioners to directly hear from members of the community. Information gained at this stage assisted with framing questions and discussions that the Holmes Inquiry would later consider.

Other community meetings were held in 16 locations throughout central, southern, and western Queensland focusing on those regions most impacted by the 2010-11 floods (Holmes 2012: 33). These were led by O'Sullivan and provided information about how community members could participate in the Holmes Inquiry's process. The Holmes Inquiry's commissioners identified through its community

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<sup>14</sup> The Holmes Inquiry's terms of reference are included as Appendix B.

meetings relevant individuals and organisations in regional areas who it would seek further information from (Holmes 2012: 33). Meetings were held before and after the interim report's publication. In undertaking these community meetings, the commissioners and their staff travelled approximately 4,154 kilometres across Queensland (Holmes 2012: 33-34). The Holmes Inquiry's police investigators were tasked with obtaining information to inform its research. To do this they also travelled across Queensland making direct contact with communities affected by the 2010-11 floods.

The Holmes Inquiry had powers to obtain statements and documents from members of the public, experts, public servants, and members of non-government organisations (NGOs) through the *Commissions of Inquiry Act 1950 (Qld)* (Holmes 2012: 34). The legislation also allowed the commissioners to call individuals as witnesses during the Holmes Inquiry's public hearings.

The Holmes Inquiry received over 700 written submissions that addressed a range of matters relating to its terms of reference (Holmes 2012: 33). As with the collection of information from community meetings, the Holmes Inquiry assessed these submissions to help frame its investigation and to shape its witness list.

Following the community meetings, the Holmes Inquiry begun its hearings, which were held in various venues throughout Queensland, including town halls and regional court houses (Holmes 2012: 35). Over the course of three sets of hearings, the Holmes Inquiry sat for 68 days and produced over 6,100 pages of transcripts (Holmes 2012: 34). These hearings were open to the public and conducted within a legal framework (Holmes 2012: 35).

Prior to its interim report being produced, the Holmes Inquiry undertook its first round of hearings, which lasted for 34 days (Holmes 2012: 34). The information gained from these hearings was used to formulate the recommendation of the Holmes Inquiry's interim report. The focus of these hearings was on areas that would improve future flood preparedness and responses.

During the second round of hearings the Holmes Inquiry sat in Brisbane, Ipswich, and Emerald (Holmes 2012: 34-35). The hearings focused on land planning and insurance related issues. When later hearings were held in Bundaberg, Maryborough, and Gympie the commissioners examined additional issues, including the emergency preparation for and response to the 2010-11 floods. (Holmes 2012: 34-35).

The third round of hearings were held over a ten-day period in February 2012 and occurred because allegations of misconduct on the part of the Wivenhoe Dam flood operations engineers in the application and reporting of dam operation strategies were made (Holmes 2012: 34). The hearings were conducted over a weekend in response to new evidence that the dam's operation manual had been disregarded. The third round of hearings are notable for Holmes advising Cummins that he should not attend any further



hearings involving SeqWater, due to a perceived conflict of interest arising from him accepting a consultancy position with the company at the Holmes Inquiry's conclusion (Holmes 2012: 35).

Throughout the Holmes Inquiry's hearings 345 witnesses were called to give evidence, with 176 giving evidence in the first round of hearings, 142 in the second, and 27 in the third (Holmes 2012: 35). These witnesses contributed to the formation of the Holmes Inquiry's recommendations and conclusions. Many individuals made applications to be witnesses, but those whose interests were likely to be affected by the Holmes Inquiry's findings or recommendations were granted a chance to appear, enabling them to cross examine evidence (Holmes 2012: 35). Those who were unsuccessful in seeking leave to appear, were seeking to speak more generally on the 2010-11 floods and were instead given other opportunities to provide information, notably by way of written submission or formal statement (Holmes 2012: 35).

The Holmes Inquiry used the information compiled during its consultation process to develop its recommendations and findings. This data was gathered through a variety of means, including written submissions, community meetings, material sought from organisations and individuals with specific expertise, and public hearings (Holmes 2012: 33). All submissions and hearings were made publicly available, except for those containing personal information.

### Communication and the media

Due to the significance of the 2010-11 floods, a strong media presence followed the Holmes Inquiry, its investigation, and its outcomes. Public perceptions were shaped by the media coverage, with *The Courier Mail* reporting that “[m]any flood victims are still traumatised by their experiences, and this inquiry will do little to put their minds at rest” (Bohensky and Leitch 2014: 484). A critical view of the Holmes Inquiry was developed by the newspaper, which argues that “after a year of evidence and deliberation, the Floods Commission of Inquiry has said it is ill-advised to release untold amounts of water during heavy flooding” (Bohensky and Leitch 2014: 484).

The proceedings of the Holmes Inquiry were open to the public and made easily available via the internet. This allowed it to be readily available to journalists and media outlets, ensuring extensive coverage of the Holmes Inquiry, not just in Queensland, and Australia, but also internationally.

### Holmes Inquiry: focuses of its investigation

The Holmes Inquiry lasted for fourteen months. The focuses of its investigation can be grouped into seven categories, all arising from the 2010-11 floods. These were outlined as its focus through the Holmes Inquiry's terms of reference (Appendix B) as: preparation and planning for the floods by governments, agencies, and the community; the adequacy of the response to the floods; management of

essential services; the adequacy of forecasts and early warning systems; insurers' performance of their responsibilities; the operation of dams; and land use planning to minimise flood impacts. Due to the wide-ranging nature of its terms of reference, the Holmes Inquiry faced a daunting range of subject matter (Holmes 2012: 623-627). The various issues listed were discussed in both its interim and final report. Floodplain management was an initial focus of the Holmes Inquiry, where issues associated with emergency warnings, preparation, planning, and response, dams, levees, and land use planning before and after the 2010-11 floods were discussed (Holmes 2012: 35).

Following this, the Holmes Inquiry turned its focus to how local and regional planning systems can minimise the impact of flooding. Focus then shifted to a summary of the land planning framework and how it works, covering the *Sustainable Planning Act 2009 (Qld)*, which outlines the governing of land planning in Queensland, the instruments made under it, and how development is assessed (Holmes 2012: 35). State and local planning is a key focus of the Holmes Inquiry, specifically as it seeks to outline the challenges of this in flood-susceptible areas (Holmes 2012: 35).

The Holmes Inquiry also focused on building controls, notably as decisions made throughout the design and construction of infrastructure impacts to what extent flood damage is mitigated. Attention was also directed towards damage to sewerage, stormwater, electricity, telecommunications, roads, and rail infrastructure caused by the 2010-11 floods (Holmes 2012: 35). Significant to this discussion was a focus on measures aimed at mitigating the impact of flooding, as to prevent the number of flood related deaths caused by the 2010-11 floods from reoccurring (Holmes 2012: 35). Flood related deaths and associated issues were discussed extensively throughout the Holmes Inquiry.

The role of dams, particularly their impact on the 2010-11 floods became a central theme of the Holmes Inquiry's investigation. Allegations of maladministration by SeqWater and its employees were reviewed (Holmes 2012: 35). In doing so, conclusions about aspects of dam operation, relating to their construction, and role in flood mitigation were reached.

Throughout the Holmes Inquiry, a focus was on improving responses to and management of floods or other disasters in Queensland. Its discussions centred on:

- the role of emergency communications;
- Queensland disaster management plans;
- the Queensland Fire and Rescue Service's response to the events of 10 January 2011 and its risk assessment process;
- the structure and funding of the SES and local SES attempts at providing a warning to Grantham residents on 10 January; and
- whether the quarry at Grantham had any role in the Grantham flooding (Holmes 2012: 35).

This highlights the Holmes Inquiry's aim to focus on what happened during the 2010-11 floods and to develop plans that mitigate or prevent it from occurring again.

### Holmes Inquiry: interim and final reports

The Holmes Inquiry released both an interim and final report, as was required by its terms of reference (Holmes 2012: 623-27). The Holmes Inquiry's interim report was released on 1 August 2011 and it contained 175 recommendations, which all related to issues uncovered through its initial investigation and required immediate action (Holmes 2011: 1). Recommendations in its interim report were set out in the chapter they relate to. These were preceded by a discussion of facts and materials used to support these in their conclusions (Holmes 2012: 37). Due to the short timeframe between the Holmes Inquiry's establishment and the requirement for its interim report, the commissioners sought to provide a comprehensive report on the operation of dams and emergency warnings, preparation, planning, and response to 2010-11 floods (Holmes 2012: 33).

The Holmes Inquiry's final report was originally due on 17 January 2012, but an extension was granted until its finalisation on 16 March 2012 (Holmes 2012: 627). This required a change to its terms of reference through an executive order. Despite this, it produced a 650 page single-volume report that included 177 recommendations relating to the experience of the 2010-11 floods (Holmes 2012: 12-29). Of the 177 recommendations, 136 directly related to the role of the Queensland Government. The Holmes Inquiry's final report detailed areas that were the focus of its investigation. These became the focus of individual chapters. In each of these chapters background information was provided to assist with the development of its argument and recommendations.

Both the Holmes Inquiry's interim and final reports provide a detailed account of the 2010-11 floods. What happened before and during the flooding is explained, with attention paid to where things went wrong and why this occurred. Its recommendations and findings preserve lessons that are aimed to assist with the impacts of the 2010-11 floods not being repeated in future. The publication of the final report on 16 March 2012 was the final act of the Holmes Inquiry, which is where the responsibilities of its commissioners and staff ceased.

### *Holmes Inquiry: post-investigation*

Following the publication of the Holmes Inquiry's final report, it became the role of the government, the community, and relevant stakeholders to implement its recommendations and findings. This process aimed to ensure that lessons were learned from the Holmes Inquiry's investigation. Due to responsibility for the implementation and evaluation of recommendations not being that of the commissioners who had designed them, little attention was given to how this process would occur. Commissioners are not

responsible for the post-investigation stage, because their duties cease with their report's publication they are rarely held accountability for the recommendations they formulate.

Discussions of the Holmes Inquiry's post-investigation stage must focus on the implementation and evaluation of its recommendations and findings. The discussion will look at how the advice of the commissioners dictates a fundamental shift away from the focus on one flood, especially as the increasing frequency and intensity of these events highlights how a focus on just one flood, often the so-called '1 in 100 year' flood, needs to be abandoned (Holmes 2012: 35). Through this discussion, it is pertinent to recognise that floods vary in size and intensity and that a proper approach to flood risk mitigation must consider this.

### Implementation: recommendations and conclusions

The Queensland Government's initial response to the Holmes Inquiry's final report and recommendations did not come until June 2012, due to it being finalised during an election. Despite the election of a new government, support was given to every one of the Holmes Inquiry's recommendations. A commitment to work collaboratively with local government and other key stakeholders to implement all the Holmes Inquiry's recommendations was also made (Queensland Government 2014: 2). The Queensland Government established a framework to guide, coordinate, and monitor the implementation of its recommendations (Queensland Government 2014: 2). Five implementation groups were established to deliver the recommendations, which were overseen by a committee of Queensland Government chief executives (Queensland Government 2014: 2). By 2014, the responsibility for recommendations that had not been implemented was transferred to relevant chief executives of government departments (Queensland Government 2014: 2).

The implementation groups were developed around the Holmes Inquiry's recommendations, with five key streams of delivery established: planning, building, environment, and mines, emergency management, and dams (Queensland Government 2012: 4). These groups were responsible for ensuring coordinated and focused action was taken to deliver the Holmes Inquiry's recommendations, because this would assist with improving flood preparedness and responses (Queensland Government 2012: 4).

The planning stream of implementation was the responsibility of the Queensland Department of State Development, Infrastructure, and Planning. It was responsible for recommendations that dealt with floodplain management and the planning framework (Queensland Government 2012: 4).

The Queensland Department of Housing and Public Works led the building stream of implementation. It had responsibility for implementing recommendations dealing with building regulations and essential services infrastructure (Queensland Government 2012: 4).

The environment and mines implementation stream was the responsibility of the Queensland Department of Environment and Heritage Protection. It was accountable for implementing recommendations relating to the management of operational and abandoned mines.

The Queensland Department of Community Safety led the implementation of recommendations in the emergency management stream (Queensland Government 2012: 4). Its key priorities dealt with emergency planning and responses. The implementation group was tasked with enhancing the operations of the SES and implementing a new formula for distributing their funding (Queensland Government 2012: 4).

The last implementation group was responsible for recommendations associated with the management of dams and was led by the Queensland Department of Energy and Water Supply (DEWS) (Queensland Government 2012: 4). Its key priorities were to engage an independent reviewer to examine SeqWater's March 2011 flood event report, examine dam optimisation studies, and to review the flood mitigation manuals for Wivenhoe, Somerset, and North Pine dams (Queensland Government 2012: 4). The task of implementing new statutory requirements for approval of emergency action plans for referable dams, was also that of DEWS (Queensland Government 2012: 4).

The Holmes Inquiry found that years of drought throughout Queensland did little to promote the need for active flood planning, whether to improve disaster responses, dam management, or land use (Holmes 2012). Due to a general complacency about floods continuing to prevail across Queensland, the commissioners identified risks associated with its recommendations not being enthusiastically taken up in the short term. This results from the absence of another flood, which the Queensland Government could use to test the Holmes Inquiry's outcomes, instead priorities have drifted, and lessons have been forgotten.

The Holmes Inquiry's recommendations focused on flood related matters, but it stresses that all levels of government, in considering their response to the recommendations, must consider how they might also be applied during other natural disasters. Another key aim of the Holmes Inquiry through its recommendations was to make these 'appropriate, feasible, and cost effective' to improve responses to any future floods (Holmes 2012: 39).

A key finding of the Holmes Inquiry focused on the operation of dams in the lead up to the 2010-11 floods. Throughout the course of the investigation, representatives from the Queensland Government and six experts discussed the operation manual of the Wivenhoe Dam (Holmes 2012: 438-39). Its findings asserted that the dam's operations manual used by the engineers was ambiguous, unclear, impractical, and not up to date. Accordingly, the Holmes Inquiry recommended a flood study of

the Brisbane River catchment be conducted (Holmes 2012: 30). It highlights that an updated flood study for all Queensland urban areas would be beneficial for future floodplain management.

Despite concerns over the impact of the 2010-11 floods, the Holmes Inquiry's findings were favourable of the Government's responses and level of preparedness. It concludes that the responses of all governments and their agencies were favourable, especially when compared "with the apparent paralysis of government agencies and breakdown in order apparent on the Gulf coast after Hurricane Katrina struck New Orleans" (Holmes 2012: 30). With no breakdowns in order and the emergency response effective in assistance being given to those who needed it, Queensland's emergency management structure was deemed effective.

### Evaluation: recommendations and conclusions

Queensland Government and the relevant implementation groups undertook an evaluation of the Holmes Inquiry's implementation of recommendations. Yearly reports were produced by the Queensland Government, which provided updates on the status of the implementation of recommendations (Queensland Government 2012; Queensland Government 2013; Queensland Government 2014; Queensland Government 2015). This process was initiated to ensure that the implementation of recommendations continues and is achieved in full.

Once the Holmes Inquiry had produced its final report, evaluation of its recommendations, and findings were made by prominent members of the community and the media, especially those impacted by the 2010-11 floods. The report frustrated residents of the Lockyer Valley, who question its legitimacy, as it did not address why residents were not warned before flash floods 'tore' through areas in south-east Queensland (ABC Online 2012). These concerns were associated with calls for a new investigation that they believed needed to look at why lives were lost, why the communities of Murphy's Creek, Grantham and the Lockyer Valley were not warned earlier, and into insurance premiums associated with the 2010-11 floods (ABC Online 2012).

Despite the Holmes Inquiry concluding that dam management, before, and during the lead up to the 2010-11 floods, was in line with appropriate operation manuals, talkback radio host Alan Jones instigated a campaign where he claimed that the commissioners had not appropriately discussed the Grantham Quarry (Thomas 2015; Courier Mail 2015). Jones's campaign against the Holmes Inquiry's findings argued that it had failed to investigate what he deemed as significant issues associated with the 2010-11 floods (Thomas 2015; Courier Mail 2015).

Eventually the campaign led by Jones and supported by certain portions of the community gained enough support that the Queensland Government announced a second commission of inquiry. The

*Grantham Floods Commission of Inquiry* (Sofronoff Inquiry) was chaired by Walter Sofronoff and lasted from May 2015 until October 2015 (Sofronoff 2015). It was tasked with investigating the flooding of the Lockyer Creek region on 10 January 2011, with specific reference as to whether Grantham Quarry caused or contributed to any flooding (Sofronoff 2015).

Despite costing A\$2.5 million, the Sofronoff Inquiry found that the management of the quarry had an insignificant effect on the floods (Sofronoff 2015; Wilson 2015). Sofronoff found that management of the quarry did not have any role or cause any adverse impact on the 2010-11 floods (Wilson 2015). It asserts that the quarry's owner Denis Wagner and his family had been unfairly targeted as responsible (Wilson 2015). The Sofronoff Inquiry reinforces the Holmes Inquiry's recommendations and conclusion. The impact of these claims and the subsequent inquiry illustrates that when attention is distracted away from a post-disaster inquiry's lessons that its recommendations suffer, especially if the legitimacy of these are questioned. The Holmes Inquiry highlights how salience and attention from the public and media to a post-disaster inquiry is significant to the success of its outcomes.

## **Summary**

The scale and intensity of the 2010-11 floods, especially those in the Lockyer Valley and downstream from the Wivenhoe and Somerset Dams illustrate why the Queensland Government established the Holmes Inquiry. The 2010-11 floods caused 39 fatalities and the Holmes Inquiry was established to investigate why this occurred, particularly how the impacts of flooding can be mitigated in future. The 2010-11 floods and the associated Holmes Inquiry were outlined in this chapter.

Heavy rainfall caused the 2010-11 floods, notably due to overflowed rivers and dam capacity levels being tested. Of the 39 fatalities, 24 were in the Toowoomba and Lockyer Valley region. This chapter discussed decision-making undertaken before, during, and after the 2010-11 floods.

The Holmes Inquiry was given a broad and daunting set of subjects to investigate through the formalisation of its terms of reference (Holmes 2012: 30). It looked at the reasons why the flooding occurred, providing judgements on the success of preparedness and responses. The commissioners faced numerous challenges in achieving this, notably when deputy-commissioner Cummins was forced to withdraw from hearings regarding SeqWater. A conflict of interest caused this, and despite it being dealt with efficiently, it led to criticisms of the Holmes Inquiry. These criticisms contributed to misgivings about the Holmes Inquiry and its findings.

Decisions made throughout its establishment, investigation, and post-investigation stages have impacted the extent to which the Holmes Inquiry's recommendations and conclusions have informed lessons that improve preparedness and responses, while mitigating or preventing potential flooding.

Questions remain over its success in achieving this, specifically due to the establishment of the Sofronoff Inquiry, which investigated areas already evaluated in the Holmes Inquiry.

Despite the acceptance of the Holmes Inquiry's findings by experts and the government, a follow-up commission of inquiry was established to investigate the flooding of the Lockyer Creek between Helidon and Grantham. Its similar findings to the Holmes Inquiry, highlight that even when major stakeholders support an inquiry's findings, there is no guarantee that they will be implemented.



## **CHAPTER 6**

### **CASE THREE: 2010-11 CANTERBURY EARTHQUAKE ROYAL COMMISSION**

Throughout the latter half of 2010 and the first six months of 2011 a series of earthquakes and aftershocks impacted New Zealand's Canterbury region. This region is located on the central-eastern coast of New Zealand's southern island. Christchurch is the major city in the Canterbury region and is New Zealand's second largest city with a population at the time of the 2010-11 earthquakes of just fewer than 375,000 (Cooper 2011: 4). A 6.2 magnitude earthquake, with an epicentre only six kilometres south-east of Christchurch, occurred on 22 February 2011. It caused 185 fatalities, approximately 1,500 injuries, and the destruction of several key buildings throughout Christchurch (Cooper 2011: 4). The 2010-11 earthquakes had a significant impact on the Canterbury region, the physical, and psychological wellbeing of its people, its economy, and its infrastructure. Affected infrastructure included many of the buildings in Christchurch's CBD, residential housing, bridges, and roads (Cooper 2011: 4). It is considered New Zealand's third deadliest natural disaster.

In response to the 22 February 2011 earthquake, its high number of fatalities, and its destruction of key Christchurch buildings, the New Zealand Government established a royal commission to investigate and evaluate the Canterbury earthquakes. The Cooper Inquiry was established to report on the causes of building failure resulting from the earthquakes, as well as to develop recommendations regarding legal and best-practice requirements for buildings in New Zealand's CBDs (Cooper 2012a: 3). The inquiry began in April 2011 and delivered the final volume of its report in November 2012. This chapter provides an overview of the Cooper Inquiry, specifically by discussing choices made throughout its establishment, investigation, and post-investigation stages.

Prior to outlining the Cooper Inquiry, this chapter develops an understanding of what an earthquake is and why they occur, most notably in New Zealand. Following this, a brief history of New Zealand's most catastrophic earthquakes is provided, as are the 2004 Indian Ocean and 2011 Japan earthquakes. This chapter references the experiences of earthquakes in Australia. These are introduced to provide background information on the experience of earthquakes in the Asia-Pacific region, of which New Zealand and Australia are a part of. Their introduction also highlights differences in their impacts and responses. This chapter then outlines the 2010-11 earthquakes, with specific attention directed towards the building and land conditions prior to the event, the earthquakes location, aftershocks and their magnitude, their damage and impact, and the recovery and relief efforts that follows its occurrence. Lastly, this chapter outlines the Cooper Inquiry, where specific attention is directed towards its

establishment, investigation, and post-investigation stages and their impact on the implementation of its recommendations and conclusions.

## **Earthquakes: a snapshot**

Earthquakes result from a series of vibrations across the Earth's surface, which are caused by a sudden release of energy; the location and depth of these determines its nature and severity (Denham 1979: 95). By measuring the amplitude of the seismic waves recorded on a seismograph and the distance of this from the earthquake, experts are able to determine its size and/or magnitude (Geoscience Australia 2012). This is a measurement of the energy released by the earthquake, which determines that every increase in magnitude roughly causes a thirty-fold increase in the energy released (Middelmann 2007: 135). An 8.6 magnitude earthquake is equivalent to an estimated 10,000 World War II developed atomic bombs (Geoscience Australia 2012). Nearly 500,000 detectable earthquakes occur each year, but a majority have small magnitudes and cause little, if any damage.

The focus of an earthquake is at its epicentre, which is the position on the Earth's surface directly above its point of impact (Cooper 2012a: 20-21). Earthquakes manifest at the Earth's surface by shaking and sometimes through the displacement of the ground (Cooper 2012a: 20-21). When the epicentre of a large earthquake is located offshore the seabed can be displaced sufficiently enough to cause a tsunami (Middleman 2007: xxi). Earthquakes also frequently trigger landslides and volcanic activity, as well as soil liquefaction, especially when its magnitude is 6.0 or greater (Huang and Yu 2013). Soil liquefaction results from shaking caused by an earthquake, which allows wet sediment to flow and become quicksand (Huang and Yu 2013: 2375-2376). Consequently, buildings can collapse, and sediment may erupt at the surface from craters and fountains.

Depending on the plate movements beneath the Earth's surface, three forms of earthquakes exist: convergent boundary; divergent boundary; and transform faults (Kusky 2008: 18). Convergent boundary earthquakes are where a thrust fault occurs, which is caused by one plate forcing itself over another (Kusky 2008: 18-19). Divergent boundary earthquakes occur when plates are forced apart from each other, which usually creates a rift zone (Kusky 2008: 18). These are most commonly found on the ocean floors. Lastly, a transform fault earthquake occurs when two plates slip by each other (Kusky 2008: 18). Most large earthquakes occur along the boundaries of tectonic plates (Middelmann 2007: 135; Cooper 2012a: 16). Earthquakes are most common along a 40,000 kilometres long horse-shoe shaped zone, most commonly referred to as the Pacific Ring of Fire (Middelmann 2007: 135; Cooper 2012a: 16). Other significant earthquakes tend to occur along plate boundaries, including those along the Himalayan Mountains. A rapid growth in mega-cities along areas of high seismic risk has led to

warnings that a single quake could claim the lives of up to three million people (Carreño, Cardona, and Barbat 2007: 161-162).

Australia's geological position means it is prone to intra-plate earthquakes which have a 'shallow focus' and are caused by movements along faults as a result of compression in the Earth's crust (Middelmann 2007: 134-135). South Australia experiences the most earthquakes in Australia, but these are at most medium sized (Middleman 2007: 136). The intra-plate earthquakes that occur in Australia are different and less predictable than the plate-margin examples that are more common in California and in other areas of the United States, as well as in New Zealand and Japan (Denham 1979: 94).

The hazardous consequences and potential for significant damage to be caused by an earthquake are shown through an examination of the 2004 Indian Ocean and 2011 Japan earthquakes, where the magnitude and location of the event transformed them into a tsunami and caused significant damage (Bethany and Hinga 2015). Consideration of the potential destruction and impact of an earthquake needs to ensure that the design and construction of a building minimises the risk of potential damage and loss of life. Attention must also be given to improving the resistance capability of existing structures.

### *Earthquakes in New Zealand*

New Zealand uses unique terminology for emergency management, as it utilises the term civil defence (Roebuck 2012: 13). The term disaster rarely appears, with emergency, and incident being preferred. Throughout New Zealand a four-staged cycle is used to shape emergency management (Roebuck 2012: 13). These four stages are reduction, readiness, response, and recovery, which are similar to the PPRR model adopted in Australia (Roebuck 2012: 13). The readiness stage highlights the need to be prepared for any potential disaster and is linked to the reduction stage, which stresses mitigation, and the management of potential threats.

New Zealand's experiences earthquakes due to its location on the geologically active Pacific Ring of Fire (Cooper 2012a: 16). Approximately 20,000 earthquakes, most of them minor, are recorded in New Zealand each year (Cooper 2012a: 25). Normally only 200 of these are strong enough to be felt, but this has led the development of strong and stringent building regulations.

Every year New Zealand experiences at least one earthquake with a magnitude of 6.0 or above. Most of New Zealand's earthquakes occur along the main ranges running from Fiordland in the south-west to East Cape in the north-east (Cooper 2012a: 18). This axis follows the boundary between the Indo-Australian and Pacific plates (Cooper 2012a: 16-18). Along the central Alpine Fault, where the plates are not subducting and the forces are accommodated in different ways, large earthquakes are less common. The largest city within this high-risk zone is Wellington, but Hastings and Napier are also

situated within it and have since European settlement experienced severe earthquakes (Cooper 2012a: 16-18).

On 26 May 1840, New Zealand's capital and most populous city, Wellington was struck by the first of several earthquakes and tremors of varying size and impact. Since then, any policy development regarding responsibility for an emergency or disaster has been developed through cooperation between New Zealand's regional local governments and its central national government (Roebuck 2012: 13). Despite this ultimate decision-making power and responsibility rests with New Zealand's central national government. This differs to Australia, where its federal system of government splits responsibility between the central federal government and regional state governments.

At the national level, the Civil Defence Ministry provides policy advice to government, supports Civil Defence Emergency Management Groups (CMGs) in their planning and operations, ensures there is coordination at local, regional, and national levels and manages the central government response for large scale civil defence emergencies that are beyond the capacity of local authorities. New Zealand's local governments are organised into 16 CMGs (Roebuck 2012: 13). The CMGs are activated and act as mutual-support for each other when the impacts of a disaster overwhelm local governments. Regulation defines the functions and structures of CMGs and these are further explained in New Zealand's *Guide to the National Civil Defence Emergency Management Plan 2006* (Ministry of Civil Defence and Emergency Management 2006).

The Earthquake and War Damage Commission (EWDC) was established in 1944 and aimed to provide insurance coverage for damage caused by earthquakes or war (Henderson 2012). New Zealand was the first country in the world to provide comprehensive disaster insurance for houses and land (Henderson 2012). Over time the EWDC has evolved into the Earthquake Commission (EQC), which provides natural disaster insurance to the owners of residential properties in New Zealand (EQC 2015). The EQC is a Government-owned Crown entity that has previously managed assets of NZ\$5.93 billion (EQC 2015). However, recent payouts after the 2010-11 earthquakes have drained these funds.

The EQC covers residential land, storm, and flood damage, but coverage for war damage has been removed (Mamula-Seadon 2016: 114). Cover also extends to fire damage that is caused by a natural disaster. Each earthquake has a NZ\$1.5 billion excess, but if the required EQC payout exceeds the total of the excess and reinsurance (NZ\$4 billion), the remainder of the payout, up to the limit of the Natural Disaster Fund is utilised (EQC 2015).

## *A snapshot of New Zealand and regional earthquakes*

A desire to further understand why earthquakes occur dictates studies of the disaster. The following section outlines some of New Zealand's most significant earthquakes, two of the world's most catastrophic examples to ever occur and their occurrence in Australia. Throughout this discussion, the impact of the specific earthquake, its consequences, and the responses of government, communities, and other relevant stakeholders are introduced.

### 1929 Murchison Earthquake

The Murchison earthquake occurred on 17 June 1929 and had an estimated 7.8 magnitude (Cooper 2012a: 26). Its epicentre was in the Murchison region on New Zealand's South Island, but the earthquake was felt throughout the entire country. The earthquake triggered a series of landslides that caused a majority of the 17 fatalities (Cooper 2012a: 26; Dowrick 1994: 192).

The 1929 Murchison earthquake impacted Nelson, Greymouth, and Westport, causing damage to roads, buildings, and bridges throughout an estimated area of 2,600,000 hectares (Dowrick 1994: 192). It also moved or destroyed many of the buildings in Murchison (Dowrick 1994: 192). Blocked roads caused by landslides resulted in diminishing food supplies across the region, especially near the earthquake's epicentre (Dowrick 1994, 192). In more remote areas it took several months to clear the roads and regain access to the affected towns and cities (Dowrick 1994: 192).

Several government responses were initiated after the 1929 Murchison earthquakes. However, the government rejected a request to provide funds for specific relief of personal property loss (Mamula-Seadon 2016: 113-114). Public resources were made available to alleviate immediate needs and to administer relief contributions from the public. Despite these measures being undertaken, there remained a clear differentiation between the role of the state in providing initial emergency support and in repairing public assets and in the role of the private sector in respect to private property. This issue was addressed in 1944 with the establishment of the EWDC, which was later transformed into the EQC (EQC 2015).

### 1931 Hawke's Bay Earthquake

The 3 February 1931 Hawke's Bay Earthquake caused 256 fatalities and widespread destruction to the Hawke's Bay region (Hill and Gaillard 2013: 109). It remains New Zealand's most deadly natural disaster and is also recognised as the 1931 Napier earthquake (Hill and Gaillard 2013: 108). The earthquake had a measured magnitude of 7.8 and 525 aftershocks were recorded during the following two weeks (Hill and Gaillard 2013: 109).

The 1931 Hawke's Bay earthquake caused buildings throughout the central areas of Napier and Hastings to be levelled (Hill and Gaillard 2013: 110). In addition to the 256 fatalities, thousands more were injured, and over 400 people were hospitalised (Hill and Gaillard 2013: 110). The events of 3 February 1931 dramatically changed the landscape of the region.

The earthquake prompted significant action from the New Zealand Government. A thorough review of New Zealand's building codes was undertaken and found that these were completely inadequate (Hill and Gaillard 2013). As a result many buildings were heavily reinforced throughout the 1930s and 1940s (Hill and Gaillard 2013: 113).

Home owners who were affected by the 1931 Hawke's Bay earthquake, had for the most part not been covered by insurance (Mamula-Seadon 2016: 113-114). This global trend arose from general insurance companies after the San Francisco 1906 earthquakes refusing to cover disaster damages (Mamula-Seadon 2016: 113). However, the occurrence of the 1931 Hawke's Bay earthquake contributed to the establishment of the EWDC.

The New Zealand Government responded to the earthquake through the initiation of the *Hawke's Bay Earthquake Relief Funds Act 1931 (NZ)* and the *Hawke's Bay Earthquake Act 1931 (NZ)*. The *Hawke's Bay Earthquake Act 1931 (NZ)* made provisions for the administration and control of funds raised by private subscription for the benefit of persons injuriously affected by the disaster. The *Hawke's Bay Earthquake Relief Funds Act 1931 (NZ)* made various provisions arising from the earthquake and had three parts. Its first part dealt with the declaration and adjustment of rights and liabilities after the Hawke's Bay earthquake. Its second part provided tax relief in cases where the payment of income or land tax would create serious hardship to the individual, while its third part addresses the validation or authorisation of payments that had been made in the wake of the Hawke's Bay earthquake.

The *Hawke's Bay Earthquake Act 1931 (NZ)* illustrates a change from previous New Zealand responses to earthquakes. It dictates how public funds might be used for emergency relief and to restore public facilities, but private property losses, including those of local bodies, should not be covered by the government. The authorisation of the NZ£1,500,000 fund through the *Hawke's Bay Earthquake Act 1931 (NZ)* illustrated a change towards greater state provisions for private losses, even if the preferable method was by way of loan rather than grant.

## 2004 Indian Ocean Earthquake

The 26 December 2004 Indian Ocean earthquake was caused by the Indian Plate being subducted by the Burma Plate (Bethany and Hinga 2015: 131). The earthquake triggered a series of tsunamis affecting landmasses along Indian Ocean coastlines in south-east and southern Asia. The tsunami caused 230,000

fatalities across 14 countries and is recognised as one of the world's deadliest natural disasters (Bethany and Hinga 2015: 131).

With a 9.2 magnitude the 2004 Indian Ocean earthquake is the third largest ever recorded and its destruction prompted a worldwide humanitarian response (Bethany and Hinga 2015: 131). The disaster caused a state of emergency to be declared in Sri Lanka, Indonesia, and the Maldives (Bethany and Hinga 2015: 132). The United Nations and Red Cross took a lead role in the administration of the relief operation across the affected countries, most of which were developing countries (Bethany and Hinga 2015: 132). The humanitarian response was significant with donations and aid coming from developed nations.

### 2011 Japan Earthquake and Tsunami

On 11 March 2011, a 9.0 magnitude earthquake occurred with an epicentre approximately 371 kilometres north-east of Tokyo (Parwanto and Osama 2014: 329). The earthquake is the largest to ever occur in Japan and caused a subsequent tsunami that led to extensive damage to infrastructure and considerable fatalities. By March 2015, it was reported that over 11,000 aftershocks had occurred and in the years following its occurrence its impacts were felt around the world, with debris washing up on North American beaches two years after the 2011 Japan earthquake and tsunami (Oskin 2015).

In 2015, it was confirmed that the 2011 Japan earthquake and tsunami caused 15,894 fatalities and 6,152 injuries (The National Police Agency of Japan 2015). A further 2,562 people remained missing and 228,863 people were living away from their home, either in temporary housing or awaiting permanent relocation (The National Police Agency of Japan 2015). The earthquake affected over one million buildings, with 127,290 buildings completely collapsing and 272,788 buildings partially collapsing, while a further 747,989 buildings were partially damaged (Parwanto and Oyama 2014: 329-330). Most of the significant structural damage happened in north-eastern Japan, where heavy road damage, a dam collapse, and fires occurred.

The most widely reported impact of the 2011 Japan earthquakes and tsunami were the Fukushima nuclear incidents (Oskin 2015). Three reactors at the Fukushima Daiichi Nuclear Power Plant suffered from level seven meltdowns (Oskin 2015).<sup>15</sup> The meltdown occurred because the tsunami had cut off

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<sup>15</sup> Aside from the Fukushima Daiichi Nuclear Power Plant's meltdown, only one other level 7 nuclear disaster has ever occurred; this was in Chernobyl in 1986 (Hindmarsh 2013: 3). A level 7 event is recognised as the worst kind of nuclear disaster, and occurs when a major release of radioactive material has a widespread affect on the health and environment in its immediate vicinity (Hindmarsh 2013: 3). Its occurrence results in an exclusion zone being established; this is often extended to beyond 30 kilometres from the source of the event.

the plant's electrical power and disabled its backup generators (Oskin 2015). Due to the meltdown, hundreds of thousands of residents were affected and forced to evacuate.

The estimated economic cost of the 2011 Japan earthquake and tsunami was US\$235 billion, which makes it the world's costliest ever natural disaster (Kim 2011). As of 15 September 2011, 163 countries and 43 international organisations had offered some form of assistance to Japan (Ministry of Foreign Affairs of Japan 2011).

The impacts of the 2011 Japan earthquake and tsunami led to a significant relief and recovery responses. Immediately after its occurrence, the Japanese Prime Minister Naoto Kan asserted that "[i]n the 65 years after the end of World War II, this is the toughest and most difficult crisis for Japan" (Cable News Network (CNN) online 2011). On 14 April 2011, the Japanese Government established an advisory panel of intellectual figures, named the Reconstruction Design Council in Response to the Great East Japan Earthquake. It submitted its first set of recommendations to the government on 25 June 2011 and these related to reconstruction measures (Japanese Government 2011).

The Japanese Government committed to cleaning up the damage caused by the 2011 earthquake and tsunami, which was forecast to cost a total of ¥1 trillion (US\$8 billion) (France-Presse/Jiji Press 2011: 2). In response to the disaster, many seaside communities in Japan have re-examined their tsunami defences and reaction plans (Corkill 2012: 7).

The significance of the 2011 Japan earthquake and tsunami is not just because of its impacts and fatalities, but also because of the complete lack of preparation for its occurrence. Despite understanding the impact of a potential earthquake, very few scientists had predicted that Japan would experience an earthquake or tsunami as large as what occurred on 11 March 2011 (Oskin 2011). Academic and expert research has directed attention towards preparation and mitigation for a catastrophic earthquake in and around Tokyo, which was over 300 kilometres away from the 11 March 2011 earthquake's epicentre in the north-east of Japan.

## Earthquakes in Australia

Australia is positioned in the middle of a tectonic plate and is generally considered to be immune from the experience of an earthquake (Middleman 2007: 134-135). Despite this, Australia experiences approximately one small earthquake each day (Middleman 2007: 134-135). Their low magnitude has meant that earthquakes in Australia have caused few injuries and fatalities and limited destruction of infrastructure.



Australia's most significant earthquake occurred in Newcastle on 28 December 1989; it caused 13 fatalities and 160 hospitalisations (Middelmann 2007: 135). The damage caused by the 1989 Newcastle earthquake is unusual, because of its small 5.6 magnitude (Middelmann 2007: 135). The average yearly cost of earthquake damage in Australia is A\$144.5 million, but damage from the Newcastle earthquakes cost an estimated A\$4 billion (Gentle, Kierce, and Nitz 2001: 41; Middelmann 2007: 145). This single event substantially increased the average annual cost of Australian earthquakes. The 1989 Newcastle earthquake highlights Australia's vulnerability to the disaster. The event illustrates how Australia must be prepared for an earthquake's potential occurrence and impact.

The management of earthquake risk in Australia has occurred through the development of sustainable communities (Middelmann 2007: 144). In doing so, provisions of financial assistance have been initiated, with funding provided to programs that assist with reducing the risk of natural disasters (Middelmann 2007: 144). The development of plans to improve Australia's earthquake risk management has been assisted by its state and territory governments (Middelmann 2007: 144). Their role is to involve themselves in planning and mitigation, as well as preparing the emergency response at the local level (Middelmann 2007: 144).

## **2010-11 Canterbury Earthquakes**

From 4 September 2010 to 13 June 2011, a series of earthquakes and aftershocks occurred across New Zealand's Canterbury region. These earthquakes and their aftershocks caused significant damage to the region, especially in Christchurch. The most significant earthquakes occurred on 4 September 2010, 26 December 2011, 22 February 2011, and 13 June 2011. Table 6.1. introduces each of these earthquakes. The 22 February 2011 earthquake caused the most significant damage. This section introduces the 2010-11 earthquakes. It outlines the land and building conditions experienced in the lead up to the 2010-11 Canterbury earthquakes, their location, magnitude, aftershocks, damage, and impact. The relief and recovery efforts that followed the 2010-11 earthquakes are also discussed.

**Table 6.1.: Details of 2010-11 Canterbury Earthquakes**

<i>Date/epicentre</i>	<b>Epicentre</b>	<b>Time</b>	<b>Magnitude</b>	<b>Intense shaking duration</b>	<b>Major impacts</b>
<i>4 September 2010</i>	40 kilometres west of Christchurch	4:35am	7.1	8-15 seconds	Damage to Christchurch's older brick and masonry buildings, to historical stone buildings, and Canterbury homesteads Seriously affected eastern suburbs and Kaiapoi with liquefaction and lateral spreading; Broken water and sewer pipes causing flooding
<i>26 December 2010</i>	1.8 kilometres' north-west from Christchurch Cathedral	10:30am	4.7	1-1.7 seconds	Localised impacts that caused further damage to CBD buildings
<i>22 February 2011</i>	6 kilometres south-east of Christchurch CBD	12:51pm	6.2	8-10 seconds	182 deaths Buildings damaged by the September earthquakes were brought down, heritage buildings were heavily damaged, modern buildings were damaged beyond repair; The CTV and PGC buildings failed catastrophically Widespread liquefaction
<i>13 June 2011</i>	Near Sumner	2:20pm	6.0	6-7.5 seconds	Damage in Christchurch and Lyttelton; CBD buildings that were to be repaired following earlier earthquakes were now irreparably damaged; Widespread liquefaction and rockfalls from cliffs in the Port Hills suburbs

(Cooper 2011: 4)

## *Building and Land Conditions*

Liquefaction during an earthquake and its aftermath causes infrastructure damage (Huang and Yu 2013: 2381-2382). Soil liquefaction is the process where saturated or partially saturated soil substantially loses its strength and stiffness (Cooper 2011: 32-33; Cooper 2012a: 75). This process occurs when some form of stress, usually caused by an earthquake, makes the soil behave like a liquid.

Publicly released studies from Environment Canterbury and the Christchurch City Council, highlight the high likelihood of liquefaction throughout the Christchurch region (Brackley 2012). Liquefaction disrupts and uplifts buried services. The scale of liquefaction caused by the 2010-11 earthquakes compares to nothing ever experienced in a modern city. Weather conditions, notably severe winds caused further damage to fragile buildings after the 2010-11 earthquakes.

New Zealand has stringent building regulations, which are designed and enforced to minimise the potential destruction of an earthquake or other disaster. However, this does not mean that buildings are designed to be earthquake proof. A building of normal importance is designed to withstand any earthquake that has at least a 10 per cent probability of being exceeded throughout a designated 50 year design life (MacRae, Clifton, and Megget 2011: 34). The design standards are enforced to ensure the safety of individuals during an earthquake, but allows for the building to be an economic write-off because of damage, even if it does not fully collapse.

The Cooper Inquiry, concluded that buildings designed to current standards, with few exceptions, performed well during the 2010-11 earthquakes (Cooper 2012b: 2). Notable exceptions include the failure of stairs in the Forsyth Barr building and the tilting of a 10-storey building on Oxford Terrace (Cooper 2012b: 2). The PGC and the CTV buildings catastrophically collapsed, but were built in 1963 and 1986 respectively, which was prior to the introduction of modern standards (Cooper 2012f: 48). Buildings constructed prior to the early 1980s have experienced earthquake loads significantly above that for which they were designed (UNAVCO 2011). Nonetheless, many of these buildings experienced minimal or no structural damage. Experienced structural engineers observed that buildings with well-conceived and simple structural systems, with minimal irregularities, have demonstrated superior performance to those that have only theoretically met codified requirements (UNAVCO 2011).

## *Earthquakes, their Location, Magnitude, and Aftershocks*

The 2010-11 earthquakes impacted the Canterbury region, but its aftershocks were felt across New Zealand's southern island (Cooper 2011: 4). The most significant of these are outlined in Table 6.1. This table highlights that much of the damage occurred in Christchurch after the 22 February earthquake. Canterbury is the second largest region in New Zealand and in 2013 it had a population of

539,433 (Statistics New Zealand 2013). Christchurch has the largest population of all territorial authorities in the Canterbury region, but six other cities have a population of over 10,000: Waitaki, Timaru, Ashburton, Selwyn, Waimakariri, and Hurunui (Statistics New Zealand 2013).

The 4 September 2010 earthquake had a 7.1 magnitude and an epicentre 40 kilometres west of Christchurch, near the town of Darfield (Cooper 2011: 4). Its origin was on a fault that had previously been unknown to experts (Cooper 2011: 4). Despite its larger magnitude, the 4 September 2010 earthquake caused comparatively fewer fatalities and injuries than other similar earthquakes (Cooper 2011: 4). A reason for this was that it occurred in the early hours of the morning (Cooper 2011: 4). By 7 August 2012 over 11,000 aftershocks had been recorded, but debate exists over whether these were aftershocks or separate earthquakes (Cooper 2011: 4; Cooper 2012e). Each of these had a magnitude of at least 2.0 and after 22 February 2011, many of the aftershocks caused further damage to Christchurch's CBD and the surrounding Canterbury region.

The 26 December 2010 earthquake included 32 shallow aftershocks, the largest of which had a recorded 4.9 magnitude (Cooper 2012a: 33). It caused damage to at least 20 buildings. As a precaution, the Christchurch CBD was shut down after the 26 December 2010 earthquake (Cooper 2012a: 33-34). The earthquakes also caused power disruptions to over 40,000 citizens.

The 22 February 2011 earthquake had a magnitude of 6.3 and caused significant destruction (Cooper 2012a: 34-35). It directly impacted the city of Christchurch, its surrounding suburbs, and the Canterbury region. The 22 February 2011 earthquake's epicentre was ten kilometres to the south-east of Christchurch (Cooper 2012a: 34-35). The initial quake only lasted around 10 seconds, but its close location to the Christchurch CBD and the previous earthquakes and aftershocks, contributed to the level of destruction caused by the 22 February 2011 earthquake. Over half of the 185 fatalities caused by the 22 February 2011 earthquakes resulted from the collapse and subsequent fire of the CTV building (Cooper 2012a: 34-35).

The 13 June 2011 earthquake had a magnitude of 6.3. Its epicentre was just ten kilometres away from Christchurch's CBD (Cooper 2012a: 35). It was preceded by a 5.6 magnitude tremor, which contributed to severe shaking in Christchurch and the surrounding region (Cooper 2012a: 35). The 13 June 2011 earthquake destroyed some buildings and caused further damaged to infrastructure in Christchurch that was affected by earlier earthquakes (Cooper 2012a: 35-36). Notable aftershocks occurred on 8 September 2010, 19 October 2010, 20 January 2011, 21 June 2011, 22 July 2011, and 23 December 2011 (Cooper 2012a: 32-36).

## *Earthquake: damage and impact*

The 2010-11 earthquakes and aftershocks had a previously unthought-of level of impact on the Canterbury region, specifically in Christchurch and its surrounding suburbs where older buildings, including several notable landmarks were destroyed.

The total cost of the earthquakes, including the Cooper Inquiry, private insurance, and individual costs were predicted to reach NZ\$30 billion, with the New Zealand Government providing just NZ\$2.1 billion (Wilson 2013, 209). In comparison, the 1931 Hawke's Bay earthquakes cost NZ£7 million, which in 2010 was equal to approximately NZ\$650 million (Dowrick 1994).

The 4 September 2010 earthquake caused several thousand minor injuries, but only two Christchurch residents were seriously hurt (Johnston *et al.* 2014: 628). These major injuries resulted from flying glass and a falling chimney. Unlike the 4 September 2010 earthquake, the 22 February 2011 earthquake occurred during the peak lunchtime hour, where many New Zealanders were outside and were buried by collapsing buildings (Cooper 2011: 25). Earthquakes and aftershocks that occur overnight, such as on 4 September 2010 have less potential for devastation, because generally, fewer people are walking the streets (Johnston 2014: 636). The most pressing impact of the 4 September 2011 earthquake was that it dramatically changed New Zealand's perception of its vulnerability to earthquakes (Wilson 2013: 208, 212-213).

While all the 2010-11 earthquakes and their aftershocks caused significant damage, it was the 22 February 2011 earthquake that had the most significant impact. The impact was largely felt in the area surrounding the earthquake's epicentre, which includes Christchurch and the surrounding Canterbury region (Wilkinson *et al.* 2013, 108). Minor damage occurred over 300 kilometres away from its epicentre in Dunedin and Nelson.

The earlier earthquakes had weakened buildings and roads across the Canterbury region, but it was the 22 February 2011 earthquake that had the greatest impact on the presentation of Christchurch's CBD. Notable Christchurch buildings, including the Radio Network House, Westpac Canterbury Centre, PGC House, and the CTV building either collapsed or were damaged to the extent that they could not be rebuilt (Cooper 2012b: 2, 5). Christchurch Cathedral lost its spire and the Christchurch hospital was partly evacuated due to damage caused by the 22 February 2011 earthquake. The 22 February 2011 earthquake caused over 1,000 buildings to be demolished, with 110 of these being more than five stories tall (Miles *et al.* 2014: 3). Damage principally occurred to older buildings, especially to those with unreinforced masonry, which were built prior to the introduction of New Zealand's stringent earthquake building codes (Miles *et al.* 2014: 8). However, high rise buildings built within the past 20 to 30 years performed well (Miles *et al.* 2014: 3).

The damage to buildings and other infrastructure by the 22 February 2011 earthquake was extensive, causing delays to rescue and recovery efforts. Damaged bridges and roads limited access for rescuers and their efforts were further constrained by the liquefaction process, which caused destruction to key infrastructure.

The 22 February 2011 earthquake caused 185 fatalities, with 115 of these resulting from the collapse of the CTV building, 18 due to the collapse of PGC House and eight because of masonry that fell on a bus (Cooper 2011: 4). An additional 28 fatalities occurred in various locations around the city centre, while twelve fatalities occurred in suburban Christchurch (Cooper 2011: 4). The 22 February earthquake caused just fewer than 7,000 minor injuries, with Christchurch's hospital reporting that it treated 220 major traumas (Tovaranonte and Cawood 2013: 245). Rescue efforts begun swiftly throughout Christchurch after the 22 February 2011 earthquakes, but after a week these were quickly transformed into recovery efforts.

### *Relief and Recovery*

After the 4 September 2010 and 22 February 2011 earthquakes, rescue and recovery efforts were swiftly initiated throughout the Canterbury region. On 29 March 2011, New Zealand Prime Minister John Key and Christchurch Mayor Bob Parker announced the creation of the Canterbury Earthquake Recovery Authority (CERA) (CERA 2013). CERA was established to lead the recovery effort. As part of its duties CERA was required to cooperate with the government, local councils, and residents to achieve its goals (CERA 2013). Its powers were wide-ranging and included the ability to suspend laws and regulations to hasten earthquake recovery. After five years of operation, CERA was disestablished on 18 April 2016, with the Government transitioning from leading the recovery, to establishing long-term, locally-led recovery and regeneration arrangements (CERA 2013).

Government activity in response to the disaster begun on the morning of 4 September 2010, when the National Crisis Management Centre was activated shortly after the earthquake, which struck at 4:35am (Parfitt 2012: 1). An enormous reconstruction task was necessary after the 4 September earthquake. The reconstruction efforts begun in the days following 4 September and was led by local and central governments, the private sector, and NGOs. However, much of this progress was undone by further earthquakes and their aftershocks (Cooper 2011: 4).

An appeal was launched by the New Zealand Red Cross, which aimed to help raise funds to assist victims (New Zealand Red Cross 2011). Paired with this initial response was the work of ordinary citizens and those in emergency services who responded swiftly to initiate rescue efforts. Countries around the world offered relief through donations, the deployment of disaster response teams, and messages of support from world leaders, including American President Barack Obama, Australian

Prime Minister Julia Gillard, and Queen Elizabeth II some notable examples (CNN Online 2011; The Australian 2011b).

After the initial 4 September 2010 earthquake, the total EQC insurance costs were confirmed at being between NZ\$2.75 and NZ\$3.5 billion. Prior to this earthquake, the EQC had a fund of NZ\$5.9 billion, but after the insurance had been tallied for the 4 September 2010 earthquake, there was approximately NZ\$4.4 billion left (Heather 2012). As of April 2012, the EQC had paid out NZ\$3 billion in claims for both earthquakes, with predictions of future payouts suggesting it would completely deplete their funds and that they would require an additional NZ\$1 billion from the government (Heather 2012).

In November 2016, a 7.5 magnitude earthquake and its aftershocks raised questions over the effectiveness of building repairs that had been initiated and funded by the EQC (ABC Online 2016; Pearlman, Palazzo, and Rothwell 2016). Reports in July 2016 highlighted that five years after the earthquakes many insurance claims remained unresolved (Truebridge 2016). Over 360 first time repairs in the Canterbury Home Repair Programme remained unfinished, 250 dwelling claims remained unresolved, and 6,144 botched repairs were required to be fixed (Truebridge 2016). Despite reports of bad experiences from claimants, the New Zealand Government remained supportive of the EQC.

### *Government Response*

After the 22 February 2011 earthquake, New Zealand Prime Minister John Key declared that the day "may well be New Zealand's darkest day" (BBC Online Asia-Pacific 2012). Christchurch Mayor Bob Parker reinforced the significance of this earthquake and its impacts, when he warned that New Zealanders were "going to be presented with statistics that are going to be bleak" (BBC Online Asia-Pacific 2012). Accordingly, the New Zealand Government activated all its Civil Defence procedures. On the day following the earthquake, John Carter, the Minister for Civil Defence, declared the situation a state of national emergency (Wilkinson *et al.* 2013, 136). This was the first instance where a natural event had caused a state of national emergency to be declared in New Zealand. The New Zealand Government's response was immediate and significant. This is significant as it involved cooperation between many departments and ministers.

As a response to the size, nature, and impacts of the 22 February 2011 earthquake, Prime Minister Key announced a royal commission of inquiry to investigate the collapse of buildings and the subsequent loss of life, damage to key buildings, and general building standards and codes (Cooper 2011: 3). The Cooper Inquiry's report was expected twelve months after the 22 February 2011 earthquake. A study undertaken by the New Zealand Department of Building and Housing complements the Cooper Inquiry, its investigation, findings, and recommendations.

## **2010-11 Canterbury Earthquake Royal Commission**

The Cooper Inquiry was established in response to the impacts and fatalities caused by building failures, because of the 22 February 2011 earthquake. This section introduces and outlines the establishment, investigation, and post-investigation stages of the Cooper Inquiry, with specific attention directed towards its ability to inform lessons that improve future earthquake responses and preparedness. Table 6.2. provides an overview of the Cooper Inquiry.



**Table 6.2.: Summary of Cooper Inquiry**

<b>Cooper Inquiry</b>	
<i>Number of recommendations</i>	interim report: 15; final report: 189
<i>Size of report</i>	interim report: 60 pages; final report: 1,148 pages
<i>Duration of inquiry</i>	18 months
<i>Number of Commissioners</i>	Three (one chairperson and two deputy-commissioners)
<i>Duration of hearings</i>	82 days of hearings
<i>Number of witnesses</i>	137

(Cooper 2011, 2012e)

## *Cooper Inquiry: establishment*

The Cooper Inquiry was formally established on 11 April 2011 (Cooper 201: 4). Three days later, serving High Court judge Justice Mark Cooper was appointed its chairperson (Cooper 2012e: 35). Engineering Professor Richard Fenwick and regarded engineer Sir Ron Carter were appointed as commissioners to assist Cooper (Cooper 2012e: 35). Following their appointment, the Cooper Inquiry's terms of reference were finalised (Cooper 2012e: 35).

Following the appointment of Cooper and his deputy-commissioners, Stephen Mills QC and Mark Zarifeh were appointed as counsel to assist the Cooper Inquiry's investigation (Cooper 2012e: 35). In August 2011, after requests from impacted families for government-funded legal representation, a third counsel, Marcus Elliott, was appointed (Cooper 2012e: 35). Elliott was given the job of focusing on the interests of bereaved families and those who were injured (Cooper 2012e: 35).

The Cooper Inquiry established an office in Christchurch that was staffed by a project manager, as well as an administration and information team (Cooper 2012e: 35). It was also staffed by legal and policy experts, a senior communications adviser, a family, and community liaison officer, a structural engineer, and general staff to assist with the Cooper Inquiry's hearings (Cooper 2012e: 35).

The commissioners and their staff were tasked with addressing the Cooper Inquiry's terms of reference.<sup>16</sup> They were also required to manage the significant media and community interests in its investigation, that results from the 2010-11 earthquakes and their impacts. Unlike the other post-disaster inquiries discussed in this thesis, the focus of the Cooper Inquiry was narrow and specific. Its terms of reference guided the Cooper Inquiry to investigate the reasons for building failure caused by the 22 February 2011 earthquake. The Cooper Inquiry's terms of reference granted permission for the investigation to take its own path, but it did exclude three issues from its investigation. As outlined in its terms of reference the Cooper Inquiry's commissioners were not to inquire into or make recommendations on:

[...] We declare that you are not, under this Our Commission, to inquire into, determine, or report in an interim or final way upon the following matters (but paragraph (b) does not limit the generality of your order of reference, or of your required recommendations):

- (a) Whether any questions of liability arise; and
- (b) Matters for which the Minister for Canterbury Earthquake Recovery, the Canterbury Earthquake Recovery Authority, or both are responsible, such as design, planning, or options for rebuilding the Christchurch CBD; and

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<sup>16</sup> The Cooper Inquiry's terms of reference are included as Appendix C at the conclusion of this thesis.

- (c) The role and responses of any person acting under the Civil Defence Emergency Management Act 2002, or providing any emergency, or recovery services or other response, after the 22 February 2011 aftershock (Cooper 2012e: 47-53).

Despite these limitations, the Cooper Inquiry's terms of reference were important. An examination of these illustrate how its commissioners and staff its terms of reference to direct and focus their consultation and investigation. Conclusions and recommendations were reached with a direct link to the Cooper Inquiry's terms of reference. Throughout its existence, the Cooper Inquiry had its terms of reference altered twice, both granting a time extension to its investigation, with the latter also outlining when specific volumes of the final report and its recommendations were required (Cooper 2012a: 96-97).

### *Cooper Inquiry: investigation*

Following the establishment of the Cooper Inquiry, attention quickly turned to its investigation and on how it would conduct this while addressing its terms of reference. The investigation phase of the Cooper Inquiry, included consultation through hearings and submissions, and the production of an interim and seven-volume final report. This section outlines these parts of the Cooper Inquiry's investigation. It also discusses its key actors and focuses.

### Consultation: witnesses, submissions, and hearings

Throughout its investigation the Cooper Inquiry invited submissions from interested parties (Cooper 2012e: 37). These provided evidence and information in relation to its terms of reference and were used to design the structure and scope of its hearings. The hearings were used with the submissions to formulate the Cooper Inquiry's conclusions and recommendations (Cooper 2012e: 37).

The Cooper Inquiry held hearings for 82 days. Submissions were made by witnesses both in person, and via video link from other places in New Zealand and overseas (Cooper 2012e: 42). It produced 10,877 pages of official transcripts and these were published on the Cooper Inquiry's website (Cooper 2012e: 42). Witnesses included technical experts, eye witnesses, injured people, engineers, building inspectors, property owners, property managers, and local and central government officials (Cooper 2012e: 42). Many of the technical experts participated in expert discussion panels. More than 6,000 documents were submitted to the Cooper Inquiry, including reports, photos, emails, letters, statements, drawings, presentations, invoices, articles, video clips, forms, work files, microfiche scans, handwritten notes and sketches, minutes, interviews, lists, and schedules (Cooper 2012e: 42-43). This totalled to over 20,000 pages of submissions (Cooper 2012e: 42).

Three discussion papers were produced by the Cooper Inquiry and these focused on building management after the earthquakes, training and organisation of the engineering profession, and their roles and responsibilities (Cooper 2012e: 39). Prior to issues becoming the focus of hearings, submissions were sought. These would help refine the issues and make them easier for the commissioners to examine.

The Cooper Inquiry sought submissions from a variety of parties, but required that these directly relate to its terms of reference. Anyone could submit evidence, but it was specifically sought from those with relevant expertise, including local government, academics, and engineers. After initial submissions were received, the commissioners used relevant findings and information to structure their discussion papers (Cooper 2012e: 39). These were produced prior to the Cooper Inquiry's public hearings (Cooper 2012e: 39). The discussion papers were important in refining issues, canvassing options to address identified problems and outlining the main areas of common view or debate in order to ensure the Cooper Inquiry's hearings were as focused and effective as possible (Cooper 2012e: 39). Written submissions were sought from invited parties to further the research and to support the production of its discussion papers (Cooper 2012e: 39). All submissions were required to identify issues in practice, provide evidence and analysis underpinning the specific issues or problems, and to describe the pros and cons of choices to address these (Cooper 2012e: 39).

Following this initial round of submissions and discussion papers, public hearings were conducted on an issue-by-issue basis (Cooper 2012e: 40-41). The first hearing focused on seismicity and New Zealand's seismic landscape, and began on the afternoon of 17 October 2011 (Cooper 2012e: 40). A one-day hearing was held in the following week and looked at Christchurch's soil conditions (Cooper 2012e: 40). In November 2012, the Cooper Inquiry commenced its hearings that investigated policies relating to earthquake-prone buildings, including those with unreinforced masonry and the failure of the PGC building (Cooper 2012e: 41). The PGC building hearings ran until December 2011, and its conclusion led to the first of 19, usually one-day, hearings about how building failures had caused fatalities and injuries (Cooper 2012e: 41). The hearings program resumed in January 2012, with a two-day hearing about the Hotel Grand Chancellor building. This was followed by further hearings regarding buildings whose failure had caused fatalities (Cooper 2012e: 41). These hearings continued until March 2012, when a two-day hearing into the Forsyth Barr building occurred (Cooper 2012e: 41). In March 2012, a hearing about new building technologies was held, which was followed by the final hearings about other examples of buildings, whose failure had caused the loss of life (Cooper 2012e: 41). A separate set of hearings were used to examine the CTV building and its related fatalities (Cooper 2012e: 41).

To facilitate open communication, people who wished to give evidence and make submissions were required to provide them in electronic form in advance of the hearings (Cooper 2012e: 41). In the interests of fairness, evidence and other information received by the Cooper Inquiry about the CTV building and other buildings failure that caused fatalities was only made available on a confidential basis (Cooper 2012e: 41). This was done to protect families and affected individuals, with the information only made available by request through a secure online document access system (Cooper 2012e: 41). Evidence was published for the public on the Cooper Inquiry's website once it had been presented at a hearing.

Despite significant consultation, the Cooper Inquiry did not think this approach alone was adequate. It suggested that developing its recommendations and conclusions, on this alone, risked relevant issues being incompletely or not at all covered (Cooper 2012e: 37). To address these concerns, as well as those that differing opinions on important issues would not be discussed, the commissioners developed its own approach to investigate what it deemed as principal issues (Cooper 2012e: 37). It sought to consult widely with a variety of actors who had related expertise and received numerous detailed and influential submissions, including expert advice, discussion papers, a representative sample of building damage, and technical reports (Cooper 2012e: 38-42).

The Cooper Inquiry took an adaptive and unique approach to consultation. In developing its own approach and moving away from traditional inquiry conventions of consultation, the Cooper Inquiry fully, and impartially conducted its investigation in relation to its terms of reference. In its final report, the Cooper Inquiry asserted that "there has never been a more accessible Royal Commission process" (Cooper 2012g: 43).

### Cooper Inquiry: communication and the media

High levels of public interest from New Zealand and other areas of the world, specifically those that are prone to earthquakes, was directed towards the Cooper Inquiry, its investigation, findings, and recommendations (Cooper 2012e: 42). Its commissioners aimed to conduct a transparent, open, and accessible inquiry, but they were mindful of who its investigation may adversely impact, including the families and friends of the 185 fatalities that occurred because of the 22 February earthquake (Cooper 2012e: 42). Live streaming of the hearings was made available online for members of the public who were unable to make it in person (Cooper 2012e: 42).

Due to the high levels of interest, the New Zealand media performed an important role in keeping the public informed about the Cooper Inquiry's work. Attention towards the 2010-11 Canterbury earthquakes was carried through to the Cooper Inquiry's establishment. Media attention after the disaster contributed to growing public interest in the disaster, its impacts, and the Cooper inquiry's

investigation. In conducting its investigation, the Cooper Inquiry recognised that the news media had an important role (Cooper 2012e: 43). Select interviews were granted with the Cooper Inquiry's commissioners, as it sought to keep the media informed of its progress (Cooper 2012e: 43). All media that attended were required to undertake background briefings before participating (Cooper 2012e: 43). These occurred at the beginning of the Cooper Inquiry's process.

### Cooper Inquiry: interim and final reports

Throughout its extensive investigative process the Cooper Inquiry was required to produce an interim and final report, the dates for these publications were outlined in its terms of reference (Cooper 2012e: 45). An interim report was deemed necessary, because reasons for the severity of building damage was immediately sought, so to facilitate reconstruction work in Christchurch (Cooper 2012e: 45).

An interim report was required by 11 October 2011, but due to the commissioners being only part-way through their investigation, it largely consisted of preliminary views that were established prior to the Cooper Inquiry's hearings. The Cooper Inquiry's final report was delivered to New Zealand's Governor-General on 10 October 2011 and contained 15 recommendations relating to seismicity, geotechnical considerations, the general performance of unreinforced masonry buildings, design practice, and new building technologies (Cooper 2012e: 45).

Despite an initial date of no later than 11 April 2012 for the publication of its final report, a series of extensions were granted through revisions to the Cooper Inquiry's terms of reference (Cooper 2012d: 5). These resulted from delays in its investigation (Cooper 2012d: 5). The Cooper Inquiry released seven separate volumes from June 2012 until November 2012. Its final reports were released in stages, so that decisions about the central city rebuild could be made as soon as possible. Each volume discussed different aspects of the Cooper Inquiry's investigation, but it was envisaged that all volumes be read together as a complete final report. Throughout the volumes 189 recommendations were made. The seven volumes were:

- Volume 1: Summary and recommendations in Volumes 1–3: Seismicity, soils, and the seismic design of buildings;
- Volume 2: The performance of Christchurch CBD buildings;
- Volume 3: Low-damage building technologies;
- Volume 4: Earthquake-prone buildings;
- Volume 5: Summary and recommendations in Volumes 5–7, Christchurch, the City and approach to this Inquiry;
- Volume 6: CTV building; and
- Volume 7: Roles and responsibilities (Cooper 2012e: 1-2).

## Cooper Inquiry: focuses of its investigation

The focuses of the Cooper Inquiry are reflected through the seven volumes of its final report. Within which all areas investigated by the commissioners were reported on and recommendations were made.

Volume 1 deals with seismicity, soils, and the seismic design of buildings (Cooper 2012a: 7-14). Throughout its first volume the Cooper Inquiry discussed the forces that give rise to earthquakes in New Zealand, specifically those present during the 2010-11 earthquakes (Cooper 2012a: 7). It also identified the active faults and previous earthquakes that had occurred in the Canterbury region, describing their nature and key characteristics (Cooper 2012a: 7). It then details concepts, theories, and methods of practice used to design buildings that can withstand earthquakes (Cooper 2012a: 7). Lastly, Volume 1 focused on the highly variable nature of soil in Christchurch (Cooper 2012a: 7). The research undertaken and information provided, illustrates the potential future impact of earthquakes in New Zealand and highlights the importance of being adequately prepared.

Volume 2 deals with the performance of Christchurch CBD buildings (Cooper 2012b: 2-3). It evaluated the performance of buildings throughout the earthquakes. Volume 2 recommended that a series of changes be made to the design practices and standards to ensure an enhanced ability for buildings to withstand or resist future earthquakes (Cooper 2012b: 2).

Volume 3 discusses low-damage building technologies and looked at building systems that have the ability to reduce the extent of damage sustained by an earthquake (Cooper 2012c: 2). Its purpose was to suppress or limit damage to readily replaceable buildings and other essential infrastructure (Cooper 2012c: 3). The volume is important in offering recommendations regarding how Christchurch could rebuild, as well as offering advice about how developments elsewhere can achieve better structural performance, specifically if an earthquake was to occur (Cooper 2012c: 2-3).

Volume 4 discusses the question of how to define and treat existing buildings in New Zealand, especially those that are likely to perform poorly during an earthquake (Cooper 2012d: 4). The volume took a case study approach by examining a series of buildings failures (Cooper 2012d: 4-5). The Cooper Inquiry considers how existing buildings could be assessed for seismic resistance and looked at how unreinforced masonry buildings may be retrofitted to increase seismic resistance (Cooper 2012d: 4).

Volume 5 reflects on Christchurch and the approach undertaken by the Cooper Inquiry (Cooper 2012e: 1). It includes a brief history of Christchurch and the surrounding Canterbury region. Following this it details the impact that the Canterbury earthquakes had on key buildings, infrastructure, and the community (Cooper 2012e: 1). The volume also outlines the Cooper Inquiry's adopted approach to its investigation, particularly how it gathered the information it used as data (Cooper 2012e: 35). This

includes an outline of the reporting structure adopted by the commissioners, as well as methods used to manage the many thousands of documents and pieces of evidence that it received or produced (Cooper 2012e: 45-46).

Volume 6 focuses on the CTV building. It described the construction of the CTV building and how the 22 February 2011 earthquake caused its collapse (Cooper 2012f: 3, 38-39). The CTV building was a major focus of the Cooper Inquiry because its collapse caused 115 fatalities. The volume discussed errors and failings in its design, permitting, and construction, as well as in inspections of the CTV building (Cooper 2012f: 38). Despite these considerations, the volume, like the entire Cooper Inquiry avoids questions of liability (Cooper 2012f: 38).

Volume 7 focuses on roles and responsibilities during an earthquake, and considered the management of buildings after its occurrence (Cooper 2012g: 2-3). It outlines the civil defence and emergency management practices of New Zealand and includes an analysis of the building evaluation process used for assessments after an earthquake (Cooper 2012g: 2). In this volume the Cooper Inquiry, reaffirms that New Zealand remains “very well served by the engineers, building control officers and others who volunteered in the building safety evaluation process carried out after the Canterbury earthquakes” (Cooper 2012g: 2-3). It also focuses on issues relating to the regulatory framework for buildings, including misunderstandings of this, quality assurance issues, and a complex and confusing set of regulatory documents (Cooper 2012g: 2-3). Volume 7 addresses the training and education of relevant actors, so to minimise potential threats and to ensure the continued safety of individuals (Cooper 2012g: 2-3). Lastly, it addresses the idea of risk, notably its management by the Canterbury regional council and Christchurch City council (Cooper 2012g: 3).

All 189 recommendations of the Cooper Inquiry’s final report were outlined throughout its seven volumes. Following their release, it became the role of government and relevant stakeholders to evaluate and implement these. This was especially important to ensure that past mistakes were not repeated. In November 2012, the finalisation, and release of the Cooper Inquiry’s final report was the final responsibility of Cooper, the deputy-commissioners, and their staff.

### *Cooper Inquiry: post-investigation*

The post-investigation phase is where the recommendations of both the interim and final reports are considered and generally implemented. The following section looks at the post-investigation stage of the Cooper Inquiry. It outlines the implementation and evaluation of its recommendations, conclusions, and findings. Throughout this section attention is given to how these helped inform lesson-learning. This lesson-learning aimed to improve preparedness and responses for future earthquakes and had implications for not just New Zealand, but in other earthquake-prone regions across the world.



## Implementation: recommendations and conclusions

The Cooper Inquiry made 15 recommendations in its interim report and 189 in its final report, which were all in response to its terms of reference (Cooper 2012e: 45-46). The aim of all its recommendations was to contribute to improving earthquake preparedness and responses in Christchurch and New Zealand. The Cooper Inquiry's recommendations reflect its focuses previously outlined and their implementation was dependent on a shared approach between various relevant actors.

The New Zealand Government announced their support for each of the Cooper Inquiry's recommendations. It designated the Ministry of Business, Innovation, and Employment (MBIE) as the lead agency for the implementation of 177 of the Cooper Inquiry's 189 recommendations (Williamson 2013). Five months after its conclusion 19 of the Cooper Inquiry's recommendations remained unresolved. While the review of policy relating to earthquake-prone buildings was dealing with 13 of these, six of these recommendations had only been noted (Williamson 2013).

The implementation of any of the Cooper Inquiry's recommendations took account of existing buildings, which were built in accordance with older outdated standards. Due to the age and state of over 1.7 million existing buildings across New Zealand, a sensible approach to regulate the earthquake risk was required (Cooper 2012d: 9, 14). Through the implementation of associated recommendations it is necessary to consider how the impact of changes to building standards affects the risk to life, especially if the regulations do not go far enough (Cooper 2012d: 202-206, 209-211). However, if the building standards were too stringent, there is a chance that New Zealand will lose hundreds of its heritage buildings and country towns (Cooper 2012d: 202-206, 209-211). The huge costs of this will fall on farmers, home owners, and businesses (Cooper 2012d: 202-206, 209-211). A need to improve the vulnerability of buildings through improved standards, presents the greatest challenge in the implementation of the Cooper Inquiry's recommendations, but attention must first focus on buildings susceptible to the greatest risk (Cooper 2012d: 208-09).

In response to the Cooper Inquiry's criticisms of the *Building Act 2004 (NZ)*, the New Zealand Government made moves towards a single nationally consistent approach, instead of having authority reside with its 67 regional local governments (Cooper 2012d: 201, 212-213). Due to being a more administrative, rather than physical change, this has been easier for the New Zealand Government to progress. The change has also been easier because of its New Zealand's unitary system of government, which removes the need for regions to agree to the changes, as would be required in Australia.

To implement many of the Cooper Inquiry's recommendations, especially those that relate to building regulations and the improvement of earthquake preparedness, changes to legislation were required. Potential complexities associated with recommendations that require changes to the law or how

professional bodies operate, caused the New Zealand Government to adopt a multi-staged approach to their implementation (Williamson 2013). To implement the recommendations legislative changes were required to the *Building Act 2004 (NZ)*, the *Historic Places Act 1993 (NZ)*, the *Resource Management Act 1991 (NZ)*, and the *Earthquake Commission Act 1993 (NZ)* (Williamson 2013).

In May 2016, the *Building (Earthquake-prone Buildings) Amendment Act 2016 (NZ)* passed the New Zealand Parliament (MBIE 2016). This legislation addresses findings of the Cooper Inquiry that highlights problems with the current system for managing earthquake-prone buildings under the *Building Act 2004 (NZ)* (MBIE 2016). Earlier amendments to the legislation had previously passed New Zealand's Parliament in August 2013 (Seville, Brunsdon, and Hare 2014). These did not change the threshold for what was defined as an earthquake-prone building, but it did place a spotlight on building performance during and after an earthquake (Seville, Brunsdon, and Hare 2014). In the formation of this legislation, the accounts of those who the MBIE sought submissions from were considered. The MBIE continues to consult on proposals for regulations and is supporting the development of a methodology to support new legislation when it takes effect (MBIE 2016).

In 2013, the responsible Minister, the Minister for Building and Construction gave a progress report on the work currently being done to further the implementation of the Cooper Inquiry's recommendations (Williamson 2013). He recognised that as part of the MBIE's multi-year approach to implementing the Cooper Inquiry's recommendations, a new policy for dealing with earthquake-prone buildings was being developed (Williamson 2013). Submissions were made in response to its initial proposals. These submissions assisted decision-making during the design of policies and in their implementation.

As part of the implementation of the Cooper Inquiry's recommendations, reviews have been undertaken to address where further progress is required and to provide status reports.

### Evaluation: recommendations and conclusions

After and during the implementation of the Cooper Inquiry's recommendations, it is necessary to evaluate their appropriateness and effectiveness and to determine whether further progress is required. For this reason, the evaluation process of a post-disaster inquiry's recommendations and conclusions continues beyond their implementation, most notably when a similar disaster tests these. The Cooper Inquiry illustrates the need for a comprehensive review of the system responsible for managing buildings during and after an earthquake. Their evaluation concludes, that the system in place during the 2011-12 earthquakes, especially during the 22 February 2011 earthquake, allowed buildings to remain, even when they had an unacceptable level of risk (Filion and Sands 2016). Accordingly, even a moderate earthquake would pose serious harm to a building and its occupants (Filion and Sands 2016).

Despite this, most buildings in Christchurch performed in line with regulative expectations, but many, because of unreinforced masonry, still possess health and safety risks (Ingham and Griffith 2011).

Most evaluation of the Cooper Inquiry's recommendations involved relevant stakeholders and government, who consider whether legislative changes could improve building codes and standards (McVeagh 2013). Deficiencies in the design and construction of buildings, as well as areas where building assessment processes could be improved, were evaluated following the Cooper Inquiry's conclusion to ensure that effective reform is achieved (McVeagh 2013). Evaluation also occurred through the MBIE seeking submissions from academics and relevant experts on the Cooper Inquiry's recommendations. This led to discussions between the MBIE, government, local governments, engineers and relevant building operators, and owners about how the implementation of recommendations that require legislative changes could be achieved.

The evaluation process of the Cooper Inquiry continues, as does the implementation of its recommendations. The MBIE continues to evaluate building regulations and codes to ensure that responses and preparedness for future earthquakes mitigate their impacts.

Following the initial implementation of recommendations, concerns were raised over the repair and recovery effort. The 2010-11 earthquakes caused considerable damage, but faults in the repair work conducted led to campaigns for a royal commission into the framework used for earthquake repairs (Sherman 2016; Fletcher 2016). This further inquiry was deemed necessary because of problems with repair work resulting from the 2010-11 earthquakes. This included the unsatisfactory completion of repairs, insurance over quoting on the extent of damage, and repairs remaining incomplete (Fletcher 2016). The role of EQC, insurance companies, and other construction companies were also questioned. Despite these concerns, the government remained supportive of the repair works.

## **Summary**

The scale and intensity of the 2010-11 earthquakes, especially the impacts experienced on and after the 22 February 2011 explain why the Cooper Inquiry was established. Unique to this post-disaster inquiry, is that it did not review the 2010-11 earthquakes, instead focusing on the failure of buildings, because this was the reason 185 fatalities occurred and is why it was considered a catastrophic event. The Cooper Inquiry produced an interim and final report, which included over 200 recommendations.

Few post-disaster inquiries have been adopted in New Zealand, but the Cooper Inquiry's size, length, investigation, and process make it ideal for comparison with similar Australian examples. Differences in the emergency management structures of Australia and New Zealand, some of which are dependent on the differences between a federal and unitary system, have been illustrated and contribute to the

comparative analysis of this thesis. However, the nature of the 2010-11 earthquakes is also why it is included.

Each of the 2010-11 earthquakes caused some damage, but it was the 22 February 2011 earthquake that caused 185 fatalities and resulted in most of the significant destruction across Christchurch. This chapter went through decisions and actions undertaken before, during, and after the 2010-11 earthquakes and discussed their impact on improving disaster resilience, should it reoccur. It also outlined the locations and magnitude of the earthquakes and their aftershocks. Outlining this assists with illustrating the role that the Cooper Inquiry had in examining and evaluating building failure.

The Cooper Inquiry had limitations on its ability to investigate and make recommendations relating to issues of liability. It offers many unique and challenging components for analysis. Decisions made throughout its establishment, investigation, and post-investigation stages have impacted the extent to which the Cooper Inquiry's recommendations and conclusions have informed lesson-learning that improves preparedness and responses through the mitigation of potential building collapses during future earthquakes. Questions remain over its success and largely these can be linked to the nature and design of the Cooper Inquiry. The design and focus of the Cooper Inquiry has been described in this chapter.

Central to the inclusion of the Cooper Inquiry, is its New Zealand origins, and the differing political structure that informs how the experience of disasters are managed. Its unitary system means that the central New Zealand Government has sole responsibility for establishing nation-wide policies and procedures for managing catastrophic disasters. Contrary to this, Australia's federal system results in power being shared between its state and federal governments. A shared approach to disaster mitigation and the improvement of preparedness and responses is required, because it is the role of all actors to mitigate a disaster, but this needs some form of coordination. In Australia, disaster management is also hindered by inconsistencies between states, but in some areas, this is important, because of the differing climatic and geographical conditions.

# **CHAPTER 7**

## **ANALYSIS AND DISCUSSION: LESSON-LEARNING AND CONSIDERATION OF RECOMMENDATIONS THROUGHOUT POST-DISASTER INQUIRIES**

The previous three chapters introduced the Teague, Holmes, and Cooper inquiries. The information discussed in these chapters is used to analyse the key research questions and aims of this thesis. To conduct its analysis, this chapter focuses on each post-disaster royal commission's three stages: its establishment, investigation, and post-investigation. The discussion focuses on how decision-making throughout these stages of the Teague, Holmes, and Cooper inquiries impacts their utility. It identifies areas where improvement may boost their effectiveness in identifying and sharing lessons that improve future disaster preparedness and responses, while also mitigating their future occurrence. This chapter stresses that royal commissions are temporary ad hoc bodies appointed by executive government to provide advice or to investigate an issue of significance; whose members are drawn from outside of government; that seek community input; undertake entirely public processes; and publicly release their reports (Prasser 2012).

This chapter's findings are presented through a series of recommendations. These are reflective of issues identified through the introduction of the Teague, Holmes, and Cooper inquiries. The central theme of these recommendations is that public attention should be sustained throughout their duration to ensure lesson-learning through the implementation of recommendations. This is especially important as post-disaster inquiries should aim to improve disaster preparedness and responses, so to mitigate the impacts of its future occurrences.

The discussion of these recommendations and rationale to support them, are derived from an assessment of decision-making throughout the three identified stages of a post-disaster inquiry. This chapter begins by addressing the establishment stage, with its focus on decision-making regarding the design of their terms of reference<sup>17</sup> and appointment of commissioners. This chapter then discusses decision-making during a post-disaster inquiry's investigation stage. Its focus is on their approaches to consultation, the scope of their investigations, and the involvement, or absence of relevant actors and blame in the Teague, Holmes, and Cooper inquiries. It then discusses decision-making during the post-investigation

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<sup>17</sup> The Teague Inquiry (Appendix A), Holmes Inquiry (Appendix B), and Cooper Inquiry's (Appendix C) terms of reference are included at the end of this thesis. The inclusion of these supplements the discussion undertaken in this chapter, specifically when it examines a post-disaster inquiries establishment stage.

stage of these inquiries, with attention directed towards the implementation and evaluation of their recommendations. Specific attention is directed towards how decision-making throughout the Teague, Holmes, and Cooper inquiries impacts continued attention towards their investigations and recognition of the implementation of recommendation. This chapter concludes by looking at themes and decision-making throughout the entirety of the Teague, Holmes, and Cooper inquiries, including viewing them as single processes; their ability to create arenas for change; the need for continued attention throughout post-disaster inquiries; the application of the ‘punctuated equilibrium’ hypothesis to the occurrence of disasters and post-disaster inquiries and in the development of disaster policies; the need to use post-disaster inquiries, or inquiries that examine disasters less frequently so as to avoid fatigue; and the benefits of following a rational decision-making framework throughout post-disaster inquiries.

Information outlined in Table 7.1. supplements the analysis of this chapter, it provides a basic overview of the Teague, Holmes, and Cooper inquiries.

**Table 7.1.: Overview of Teague, Holmes, and Cooper inquiries**

	<b>2009 Victorian Bushfires</b>	<b>2010-11 Queensland Floods</b>	<b>2011-12 Canterbury Earthquakes</b>
<i>Duration</i>	18 months	14 months	18 months
<i>Recommendations</i>	51 (first interim report); 7 (second interim report); 67 (final report)	175 (interim report); 177 (final report)	15 (interim report); 189 (final report)
<i>Established by</i>	Victorian Government – Premier John Brumby	Qld Government – Premier Anna Bligh	NZ Government – Prime Minister John Key
<i>Number of committee members</i>	Three (one chairperson and two deputy-commissioners)	Three (one chairperson and two deputy-commissioners)	Three (one chairperson and two deputy-commissioners)
<i>Publicly held hearings and released reports</i>	Yes	Yes	Yes
<i>Length/no. of hearings</i>	12 months; 155 hearing days; 434 witnesses	three rounds of hearings; 68 hearing days; 345 witnesses	82 hearing days; 137 witnesses
<i>Report size</i>	Two interim reports (350+ and 20 pages); 42-page summary; four-volume final report (360, 427 and 95 pages)	One interim report (262 pages); One final report (654 pages)	One interim report (60 pages); Seven-volume final report (112,236, 40, 240, 80, 324, and 116 pages)

## Post-disaster inquiries: establishment stage

Choosing to adopt a royal commission or other form of inquiry in response to a disaster suggests that a government is acting decisively. For many its appointment is the answer to a disaster, despite no guarantee that learning will occur. A focus on achieving lesson-learning is important in response to a disaster and the appointment of post-disaster inquiries should rise above the need for governments to act quickly. This will assist with them avoiding perceptions of inaction.

Despite occurring quickly following a disaster's occurrence and the announcement by government of a post-disaster inquiry's establishment, decision-making during this stage affects its investigation and post-investigation stages. This is concerning, due to the little, or no attention that is given to these decisions, especially as the discussion of the Teague, Holmes, and Cooper inquiries outlines issues that arose from the design of their terms of reference or appointment of commissioners. The impact of decision-making during the establishment of the Teague, Holmes, and Cooper inquiries are discussed below, which includes an analysis of to what extent executive government influenced these inquiries, notably through its control of decision-making during their establishment stage. There is no doubt that the executive has an influence on a post-disaster royal commission's establishment and as such it is necessary to evaluate the executive's impact on a royal commission's prestige, particularly as its independence is essential to this (ALRC 2009: 46).

This section begins by reflecting on a post-disaster inquiry's terms of reference and how decision-making during their design impacts sustained and future attention towards it. Second, this section looks at the appointment of commissioners, specifically addressing how decisions over their expertise and background impact post-disaster inquiries, their investigation, and outcomes.

### *Terms of reference: design, blame and lesson-learning*

A post-disaster inquiry's terms of reference must be specific enough to encourage a post-disaster inquiry capable of delivering manageable and achievable recommendations aimed at improving disaster preparedness and responses. Its scope should be wide enough to ensure that identified issues of significance throughout its investigation are able to be evaluated. The impact of decision-making in the design of a post-disaster inquiry's terms of reference defines its parameters and boundaries (Prasser 2006: 137).

Choices between specific and non-specific terms of reference result in some post-disaster inquiries having identifiable purposes, while in others this is less certain due to poor design. Decision-making at this stage should also dictate to what extent issues are included or excluded from a post-disaster inquiry's agenda. The design of a post-disaster inquiry's terms of reference is a risky and impactful task



for governments, particularly as they need to be quickly and efficiently produced, as well as being effective in encouraging an investigation to identify and share lessons. The catastrophic nature of disasters, especially those considered sufficient to be responded to through post-disaster royal commissions, highlight the importance of getting these decisions right, so that recommendations are formulated to improve policies and procedures that contribute to developments in relevant preparedness and responses. This is dependent upon shared intentions and expectations of governments, businesses, communities, and relevant stakeholders. These should be reflected in a post-disaster inquiry's terms of reference and should ensure that appropriate lesson-learning opportunities exist, but that enough scope is provided so that no issue of significance is not evaluated.

Appropriate terms of reference begin through suitable choices that ensure an investigation is succinct and focused on addressing these, but also broad enough so that no issue of significance is not reviewed. The impacts of decisions between adopting broad and specific terms of reference are demonstrated in the Teague, Holmes, and Cooper inquiries, where issues included or excluded from their investigations affected their outcomes. When its terms of reference are narrow and specific, a post-disaster inquiry is often unable to be placed in a wider political, economic, and social context (Elliott and McGuinness 2002). Restricting an inquiry's terms of reference and in turn in its investigation, limits the issues and areas it can investigate, report on, and make recommendations about. However, specific terms of reference outline exactly what areas a post-disaster inquiry's commissioners are expected to investigate and report on. Recent post-disaster inquiries with narrow terms of reference have missed opportunities for discussions and reviews of what can more effectively be achieved.

Post-disaster inquiries with wide terms of reference have allowed for blame to be directed towards communities and individuals who have managed the crisis or responded to it, which has limited their focus on lesson-learning. Prasser (2006: 135) asserts that a more holistic view of an event is sought through an inquiry and that this should be presented in its terms of reference. When a post-disaster inquiry's investigation focuses on responsibility and accountability, it is dominated by "finger-pointing, blame, vilification and scapegoating" (Dwyer 2015). This is dangerous for a post-disaster inquiry's lesson identification and learning potential, because as Holmes (2010: 388) asserts "in the case of a catastrophe, the instinct is to blame the government for poor planning and blame those individual public servants who had to 'manage' the crisis."

Discussions of blame and liability were central throughout the Teague Inquiry's hearings, investigation, conclusions, and recommendations, which have led to it be likened to a 'witchhunt' (Holmes 2010: 389). Analysis of the inclusion of blame and liability in the Teague Inquiry illustrates that traditional understandings of accountability and responsibility have been exchanged for a 'win or lose' adversarial approach to seeking truths (Holmes 2010: 389). Holmes (2010: 389) asserts that in the Teague Inquiry

this diverted attention away from “more fundamental truths” that allow for different and possibly more successful disaster responses in future. The Teague Inquiry’s subsequent focus on blame emerged from the absence of a clear and specific direction in its terms of reference. This became a central focus of its initial consultations, including its community consultation, public hearings, and both its submissions from witnesses and experts.

The Teague Inquiry’s terms of reference were broad and non-specific. Examination of them demonstrates that the Victorian Government sought an inquiry to be conducted where no issue was left off the agenda. Issues identified throughout the early stages of the Teague Inquiry became the focus of its investigation, findings, and recommendations. This differs to the narrow and specific terms of reference adopted by the Cooper Inquiry, where focus was directed towards building failures caused by the 2010-11 earthquakes. Its investigation, findings, and recommendations reflected this. Toft and Reynolds (1999) assert that specific terms of reference lead to an inquiry’s final report being superficial. They argue that this occurs because it is difficult for participants to raise issues they identify as necessary to investigate or for commissioners to investigate anything that arises from their investigation (Toft and Reynolds 1999). Despite its specific terms of reference, the Cooper Inquiry’s recommendations reflect its focus. It delivered outcomes that aim to improve building regulations and standards should a future earthquake occur.

Despite the community’s desire to find someone to blame after the 2010-11 earthquakes, the scope of the Cooper Inquiry’s investigation was narrowed through its terms of reference. This includes the exclusion of issues associated with blame and liability:

[b]ut, We declare that you are not, under this Our Commission, to inquire into, determine, or report in an interim or final way upon the following matters (but paragraph (b) does not limit the generality of your order of reference, or of your required recommendations):

- a) Whether any questions of liability arise; and
- b) Matters for which the Minister for Canterbury Earthquake Recovery, the Canterbury Earthquake Recovery Authority, or both are responsible, such as design, planning, or options for rebuilding in the Christchurch City CBD; and
- c) The role and response of any person acting under the Civil Defence Emergency Management Act 2002, or providing any emergency, or recovery services or other response, after the 22 February 2011 aftershock: (Cooper Inquiry 2012: Appendix 1).

By excluding issues of liability, the Cooper Inquiry was able to examine building failure thoroughly and freely caused by the 2010-11 earthquakes. Its commissioners sought detailed evidence from relevant actors with expertise regarding why specific buildings failed. Due to its detailed, but specific focus, the Cooper Inquiry identified lesson-learning opportunities that would improve building regulations, design, and safety.

The absence of blame or discussions of liability in the Holmes and Cooper inquiries influences acceptance of their recommendations as well as the level of attention directed towards their reporting and implementation. Paired with the publication of the Cooper Inquiry's reports were concerns from those directly impacted including the survivors and families of those whose deaths were caused by the 2010-11 earthquakes (Greenhill, Young and Wright: 2012). They were dismayed by its lack of focus on issues of accountability (Greenhill, Young and Wright: 2012). They stressed that someone had to be found responsible and made to apologise for these deaths and injuries, especially those caused by the collapse of the CTV building (Greenhill, Young and Wright: 2012).

Due to their terms of reference or decisions made during their investigation, discussions of blame, liability, and accountability were excluded, or ignored in the Holmes and Cooper inquiries. Instead, they became the focus of post-investigation analysis and distracted attention away from their findings and recommendations. Despite an absence from the Cooper Inquiry's investigation, attention after the production of its final report focused on finding answers as to who was responsible. The focus of the post-investigation stage was on reconciliation, rather than the recommendations, and lessons identified throughout the Cooper Inquiry's investigation. This was to the detriment of the process of implementing its recommendations, as little public acknowledgment of the lessons learned from the 2010-11 earthquakes existed. While not the sole reason, the absence of blame paired with a public desire for it, contributed to attention being distracted away from the Cooper Inquiry's legitimate findings and lessons.

A similar absence of blame existed in the Holmes Inquiry, but this led to a campaign that raised issues over unanswered questions about the 2010-11 flood, which caused distractions in the post-investigation stage. Despite issues of blame and liability not being included in the Holmes Inquiry's conclusion and reports, fault was found through the breach of the Wivenhoe Dam's operation manual (Holmes 2012: 439). The failure to adequately address these breaches was central to the critiques raised and led by talkback radio host Alan Jones (The Courier Mail 2015). Jones in his critique of the Queensland Government argues that the Holmes Inquiry had been established and designed as a cover up for corruption in the management of dams, because throughout its investigation it did not assign blame or liability (The Courier Mail 2015). Jones sought the attribution of blame to the managers of Queensland dams, especially those that had contributed to the severity and impacts of the 2010-11 floods (The Courier Mail 2015).

The Jones-led campaign distracted attention away from the Holmes Inquiry's findings and recommendations. It caused Queensland Premier Annastacia Palaszczuk to establish the Sofronoff Inquiry. Led by former solicitor-general Walter Sofronoff QC, this short post-disaster inquiry was established due to reports that had highlighted 'several inconsistencies' in the Holmes Inquiry's findings

(Sofronoff 2015). Through a restricted two-week period of consultation, the Sofronoff Inquiry's terms of reference directed attention towards the following areas:

- the impacts of human-made and natural features of the landscape which could have altered or contributed to the flooding;
- whether the existence or breach of the Grantham Quarry caused or contributed to the flooding;
- whether the quarry had a material impact on the damage caused;
- whether the breach of the quarry had implications for the evacuation of the town; and
- how these matters were initially investigated and how eyewitness accounts were dealt with in the aftermath (Sofronoff 2015).

The Sofronoff Inquiry's specific terms of reference address concerns raised by Jones and those that were voiced throughout the community. Its presence created a distraction to the implementation and evaluation of the Holmes Inquiry's recommendations. This is especially detrimental to attempts to improve disaster preparedness and responses, because its findings supported those of the Holmes Inquiry. However, reasons for the Sofronoff Inquiry extend beyond this and will be discussed further.

Community expectations differed after the occurrence of 2009 bushfires, 2010-11 earthquakes, and 2010-11 floods. During the post-disaster inquiries, community expectations were fulfilled in areas where their terms of reference were wide enough to allow for affected individuals, communities, and stakeholders to share their experiences. Central to this discussion, is a new understanding of accountability that has emerged from the Teague, Holmes and Cooper, inquiries.

Decisions over whether to include discussions of blame in a post-disaster inquiry represent a volatile choice for governments, especially as its presence has the potential to derail an investigation and distract from lesson-learning, while its absence can distract attention during the implementation of recommendations. Decision-making at this stage should reaffirm the need to meet community expectations. These should recognise the desire to find fault and heal after a disaster or catastrophic event, but should not distract from potential learning opportunities.

The Cooper Inquiry's narrow scope also saw the exclusion of issues associated with the 2010-11 earthquakes, specifically relating to the associated deaths if these did not relate to building design or failure. This results from its specific terms of reference, which included an exclusion clause that removed any discussions of liability or the role and response of any person acting under the *Civil Defence Emergency Management Act 2002 (NZ)*. Its inclusion narrowed the Cooper Inquiry's scope, but this allowed for the appointment of knowledgeable commissioners with relevant expertise and for its recommendations to be linked to a central aim.

The Holmes Inquiry, despite having non-specific terms of reference, directed attention towards the examination of 2010-11 floods, government preparedness, and the emergency response, specifically

relating to the operation of relevant dams and the adequacy of water releases. Its terms of reference provided the Holmes Inquiry with a wide scope and insisted it investigate a variety of topics relating to why the 2010-11 floods had occurred. It was also required to investigate how their impacts became so significant. Unlike the non-specific terms of reference of the Teague Inquiry, where what was to be investigated was left to the commissioners to decide, the Holmes Inquiry provided a list of what was to be reviewed, but requested that this broad range of topics be extensively investigated. This provided its commissioners with direction that was lacking in the Teague Inquiry.

Other than determining or shaping the post-disaster inquiries, the Teague, Holmes, and Cooper inquiries terms of reference outlined an intended timeframe for their investigation. Included in this was an outline of when the commissioners were required to produce their reports and recommendations. While both the timeframes for the reporting of interim and final reports in each of the cases were outlined in their terms of reference, these later required alterations. In the Holmes and Cooper inquiries, executive orders were required for issues beyond their terms of reference to be included in their investigations. These involved amendments being made to their terms of reference, while changes to reporting schedules were required in all three cases.

Despite being criticised for causing unnecessary costs, complexity, and delay to an inquiry, as well as leaving it wandering between possible avenues for discussion, non-specific terms of reference allow for a broad range of issues to be investigated (ALRC 2009: 110). This occurred in the Teague Inquiry, where its non-specific terms of reference left all issues available to investigate and resulted in a series of recommendations relating to various issues associated with the 2009 bushfires, preparedness for them, and responses. The implementation of its recommendations presented a challenge, due to it including the involvement of multiple stakeholders and government actors.

Decision-making in the design of a post-disaster royal commission's terms of reference is instrumental for determining whether an issue or aspects of it are important enough to investigate. In the Teague, Holmes, and Cooper inquiries the terms of reference and whether these were broad, wide-ranging, specific, or narrow, as well as their chosen focus impacted their outcomes. Due to this decision-making being at the behest of the executive arm of government, they not only have an influence over a post-disaster inquiry's outcomes, but can influence their investigation to serve political goals or to benefit executive government. This has the potential to distract attention and salience throughout a post-disaster inquiry. It also determines whether its outcomes will be deemed successful, notably this occurs through the implementation of its recommendations.

Developing a post-disaster inquiry's terms of reference presents an immense challenge in the post-disaster phase, especially as these can determine the direction that it takes. For post-disaster inquiries

to objectively gather their information, a rational decision-making process must not just be followed, but would ideally frame its establishment. In establishing the Teague Inquiry, Victorian Premier Brumby asserted that:

[t]hese fires have taken so much from Victorian communities and they want and deserve to know all the details about how these devastating bushfires occurred, the response to them and most importantly, any steps that can be taken to prevent this from ever happening again (Sydney Morning Herald 2009).

The catastrophic impacts and sheer public dismay caused by the 2009 bushfires were reasons for the Teague Inquiry's terms of reference remaining broad and non-specific, as the government sought to ensure that all issues deemed appropriate for investigation were included. The Teague Inquiry adopted non-specific and broad terms of reference, which allowed for issues of blame, liability, and responsibility to be included in its investigation. This highlights that the motivations behind an inquiry's establishment can dictate or impact its terms of reference, specifically through executive government decision-making in their design.

The Cooper Inquiry restricted its terms of reference, due to the motivation to address building failure, because of the mass fatalities caused by building failure because of the 2010-11 earthquakes. A desire to ensure this was never repeated encouraged the Cooper Inquiry's terms of reference. However, later during the inquiry and through the post-investigation stage, concerns existed over what was excluded from its investigation, but it remained the goal of the New Zealand Government to address building failure. A more specific policy focus in the Cooper Inquiry was easier due to its unitary system of government, which meant in its establishment that the government knew it would be able to implement any reforms as it had the power to do so. This was unlike the Holmes and Teague inquiries, where a focus on policy resulted in federal policies needing to be changed, which in this case was outside the relevant government's responsibility.

Differences in the Holmes Inquiry's terms of reference do not represent an alternative motivation behind its appointment, rather it represents the government seeking greater control over its investigation and recommendations. This ensures that the investigation could identify lesson-learning opportunities. Beyond this, the Holmes Inquiry sought to focus its investigation towards manageable recommendations that aimed to improve disaster preparedness and responses.

The impacts of a post-disaster inquiry's terms of reference are felt throughout their investigation and post-investigation stages. Decision-making in the design of these have a drastic impact on their outcomes, with recommendations reflective of the Teague, Holmes, and Cooper inquiries investigations. Choices between a specific or non-specific terms of reference have differing impacts on what a post-disaster inquiry investigates. Whether one or the other should be adopted relates back to

the issue under investigation and to what extent recommendations are required. There are obvious benefits of a narrow and specific terms of reference, because the Cooper Inquiry's recommendations were easily implemented, notably as they involved limited community participation. However, salience and attention towards the Cooper Inquiry was impacted by a lack of consultation and considerations of issues that the community expected to be discussed. It is vital that a post-disaster inquiries terms of reference are specific, with a direct focus on what it intends to investigate and report on, but are broad enough to allow issues identified through its investigation as significant to be included.

Decision-making through the design of the terms of reference is important for shaping the direction of a post-disaster inquiry and throughout the Teague, Holmes, and Cooper inquiries, this altered their direction, and outcomes. It is essential that a balance is struck between what is included and excluded in its investigation. This occurs through the design of its terms of reference.

Decisions over to what extent, if any, blame has a role in a post-disaster inquiry should be made in the design of its terms of reference, but its important post-disaster role should be recognised. Finding an adequate place to discuss blame, while ensuring salience, and attention is maintained in a post-disaster inquiry, should support it addressing its terms of reference and in producing recommendations that improve disaster preparedness and responses. It is essential for the continued success of post-disaster inquiries that they address these issues and plan for how to include them without minimising their lesson-learning potential.

Decision-making throughout the establishment stage, specifically in the design of a post-disaster inquiry's terms of reference impacts what follows. It is important that their scope encourage the achievement of manageable recommendations that improve disaster preparedness and responses. Also, no issue of significance should be excluded from its investigation, this includes issues identified throughout its consultation. Balancing the inclusion and exclusion of issues in a post-disaster inquiry is discussed further in this chapter.

### *Appointment of commissioners: judges, special expertise, bias, and independence*

Decision-making throughout the establishment stage also includes the appointment of commissioners. Similar to the design of its terms of reference, the appointment of commissioners has an impact on a post-disaster inquiry's investigation and outcomes. Analysing the establishment of the Teague, Holmes, and Cooper inquiries highlights how the appointment of their commissioners impact their salience and whether distractions caused attention to be directed away from lesson-learning that improves disaster preparedness and responses.

The selection of commissioners should include the appointment of a chairperson and two deputy-commissioners, who hold relative expertise, but will not influence salience or the independence of a post-disaster inquiry and its recommendations.

As post-disaster royal commissions are independent of executive government, their chairperson, deputy-commissioners, and associated staff are drawn from outside of government. This assists in community acceptance of government intentions in addressing its recommendations, because the independence is proof that the facts of the issue have been evaluated (Prasser and Tracey 2014e: 375). The adversarial and inquisitive nature of a post-disaster inquiry's investigation have led to the regular appointment of current or former members of the judiciary as its chairperson. These appointments reflect analysis that suggests retired or serving judges are ideal, because they possess a widely-held respect and regard, as well as being completely independent of government.

The Teague, Holmes, and Cooper inquiries were chaired by either a sitting or retired judge. The appointment of a judicial member as chairperson of a post-disaster inquiry influences its nature, due to their unique characteristics and it is important to examine their impact on its investigation, conclusions, recommendations, and final report (Merton 1975: 162-166). Rhodes (1975: 75) suggests that "there is a close connection between the origins of committees and their memberships", hence it is important to understand that the background and expertise of its commissioners affect a royal commission's process and outcomes.

The appointment of a member of the judiciary is a tradition and practice carried forth from the United Kingdom's use of royal commissions (Bulmer 1982: 115-118; Cartwright 1975: 62-77). This is also a long-standing practice in Canada, but has not occurred without criticisms (Holland 1990: 100-102). Prasser (2006: 137) highlights that when legal professionals chair inquiries their effectiveness is challenged as they absolute adhere to its terms of reference, rather than pursue the broader issues of the inquiry. The appointment of judges, legal professionals, or other members of the judiciary have been favoured for several reasons, most commonly because of the unique skillset required to undertake an inquisitive investigative inquiry, which improves their ability as commissioners to make informed decisions. This skillset includes the ability to collect, collate, and analyse evidence, so as to evaluate the credibility of witnesses and assist in making findings of facts.

Killen (1982: 82) observes that a royal commission is not always the most appropriate body for determining facts and that this is contrary to the role judges undertake in court. This results in assertions that remind us that royal commissions and public inquiries are not courts of law and should not be treated as such. When a member of the judiciary is appointed as chairperson of a post-disaster inquiry, it will often become an unnecessarily combative forum, where advocacy can deflect attention and wrong



conclusions are made, which results from these characteristics being central to the profession (Killen 1982: 82).

Despite any known concerns with the appointment of judges, one was chosen to chair each of the Teague, Cooper, and Holmes inquiries: Bernard Teague AO, a retired Victorian Supreme Court Judge, was chairperson of Teague Inquiry; Catherine Holmes, who at the time of her appointment was a Queensland Supreme Court Judge, was appointed chairperson of the Holmes Inquiry<sup>18</sup>; and Auckland's Mark Cooper, a High Court judge, was chosen to chair the Cooper Inquiry. The tradition for post-disaster royal commissions to be chaired by individuals with judicial expertise dates to 1939, with the appointment of then sitting judge Leonard Stretton to chair the Stretton Inquiry.

The responsibility of commissioners makes their appointment significant important as it impacts a post-disaster inquiry's investigation and its recommendations. When a serving or retired judge is appointed it enhances a post-disaster inquiry's 'publicness', perceived independence, and profile (Prasser 2006: 237). Moffitt (1985: 186) asserts that this style of appointment provides royal commissions with "the status of proceedings in a court, treating it as a judicial proceeding." However, in post-disaster inquiries evidence is not always accepted or presented in the same way. Most post-disaster inquiries unless outlined in their terms of reference, do not allow for judgments on the guilt or otherwise of individuals to be made, thus differing from a court or legal proceeding. The Teague Inquiry allowed for discussions of blame and liability due to its broad terms of reference. However, recommendations of most post-disaster inquiries are first assessed by the executive government that establishes it before being referred to relevant bodies for action (Prasser 2006: 238).

Moffitt (1985) considers the appointment of judges as commissioners. Despite early identification of challenges associated with appointing judges as commissioners, it remains an issue and area of concern in contemporary royal commissions. This is particularly relevant in the Holmes and Cooper inquiries where sitting judges were appointed as their chairperson. The issue of appointing retired judges in Victoria, such as Bernard Teague after the 2009 bushfires was addressed in 1922 by the Chief Justice of the Victorian Supreme Court, who observed that members of the Victorian Judiciary were not to serve on executive-appointed inquiries. Irvine, instead outlines the role of judges as to:

[h]ear and determine issues of fact and of law ... There begins and ends the function of the judiciary. It is mainly due to the fact that, judges in all British communities have, except in rare cases, confined themselves to this function, that they have attained --- the confidence of the people. (Irvine 1922 quoted in Prasser 2006: 238).

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<sup>18</sup> The appointment of Justice Holmes and her role in the royal commission did not limit her career prospects. In 2015, Holmes was appointed Chief Justice of Queensland's Supreme Court.

Decisions regarding whether a sitting or retired judge is selected as a post-disaster inquiry's commissioner can impact it, most notably whether salience and attention exist beyond the disaster occurrence and establishment of its investigation.

Justice Holmes' appointment was met with criticism, but her previous experience in investigative inquiries provided the Holmes Inquiry with a level of expertise that most post-disaster inquiries often lack. Despite critiques surrounding her appointment, she did have previous experience as a member of an inquiry, which would have supported her leading the investigation.

Despite no controversy existing over the appointment of Teague, Holmes, or Cooper, the considerable cost and importance of them to the outcomes of their inquiries dictate that their role be further analysed. The choice between a sitting or sitting judge has not been shown to impact salience or interest in the three cases, but this thesis asserts that due to separation of powers, it is preferable that retired judges are appointed. The Teague, Holmes, and Cooper inquiries appointment of a sitting or retired judge demonstrates how seriously the governments took their role in responding to and investigating the event. This appointment provided each of the cases with a higher level of importance and significance.

While little attention is directed towards the appointment of a post-disaster inquiry's chairperson, even less is directed towards the selection of deputy-commissioners. Deputy-commissioners, similarly to the chairperson, offer valuable insight and expertise to post-disaster inquiries, their investigation, final report, and associated recommendations, and conclusions. However, the impact of the Teague, Holmes, and Cooper inquiries' deputy-commissioners on their investigations and recommendations illustrates that their role requires further scrutiny.

Two deputy-commissioners were appointed to each of the Teague, Holmes, and Cooper inquiries. These appointments were made to provide the post-disaster inquiries with relevant skillsets and expertise to supplement that of the chairperson. Through their appointment, deputy-commissioners provide immense benefits to post-disaster inquiries, as their selection limits the dependency that was traditionally placed on one commissioner to undertake the investigation. As Teague, Cooper, and Holmes were all from a judicial background, the deputy-commissioners appointed to assist them held different expertise and skills. The appointment of deputy-commissioners supplement areas of expertise that the chairperson lacks. The appointment of deputy-commissioners should reflect the design of the post-disaster inquiry established in its terms of reference. Doing so enables post-disaster inquiries to possess the relevant and necessary expertise to undertake their investigations adequately and effectively.

In the Teague Inquiry, McLeod's appointment embodies a challenge of bias, because his previous experience as chairperson of the McLeod Inquiry, which investigated similar issues to the Teague

Inquiry represents the potential for prejudice towards the findings of his previous inquiry, rather than reflecting on the information in front of him. Despite this, McLeod's expertise was beneficial to the Teague Inquiry, because he provided specific knowledge about bushfires and the science behind their occurrence, which he gained through the McLeod Inquiry.

Perceptions of bias did not impact the outcomes, or salience of the Teague Inquiry, however, in the Holmes Inquiry, the appointment of deputy-commissioner Peter Cummins caused a significant issue during its investigation that impacted perceptions of its recommendations. Perceptions of bias were associated with Cummins after he accepted a consultancy position with SeqWater. Due to the Holmes Inquiry evaluating the role and performance of SeqWater during the 2010-11 floods, Justice Holmes sought to reinforce the credibility and independence of her inquiry:

[...] that Mr Cummins, my other Deputy Commissioner, has not been in any position of conflict of interest because, among other reasons, he didn't know, when he agreed to do work after the end of the Commission, that the consulting company for which he agreed to do that work had been engaged by SeqWater.

The consulting company is not, despite reports to the contrary, engaged to rewrite the Wivenhoe manual; just to be part of the committee reviewing technical work undertaken as part of the review of the manual.

It remains the case there has been no conflict of interest, but a couple of days ago Mr Cummins became aware that Australian Dams and Water Consulting has been engaged in that role by SeqWater.

I've thought about what that means for the part of the inquiry we're currently engaged in, which largely concerns SeqWater's conduct. The answer is probably nothing, given that Mr Cummins has no interest - he holds no interest in the company engaged and given, as I explained yesterday, that it's I who make decisions and recommendations. But it's up to me, as I think I also made clear yesterday, to decide what help I want from each Deputy Commissioner.

I've decided it's just simpler and puts everything beyond argument if I don't seek any assistance from Mr Cummins in relation to this last part of Commission's work which concerns SeqWater. That won't present me with any particular difficulty because the decisions I have to make are essentially about credibility, and they are not ones in which I can be helped by technical advice.

Mr Cummins remains a Deputy Commissioner, but he won't participate in this part of the Commission's work (Holmes 2012b).

Despite Holmes' recognition, the decision was made to remove Cummins from any remaining components of the Holmes Inquiry relating to SeqWater. Holmes also acknowledged that any work Cummins had conducted prior to his appointment to SeqWater had been done without any conflict of interest (Holmes 2012b). This conflict impacted perceptions of the Holmes Inquiry's findings, investigation, and recommendations. These perceptions impact perceived trust in the Holmes Inquiry

and its findings, which contributed to the establishment of Sofronoff Inquiry that investigated similar issues, but had comparable findings.

Decision-making by executive government in the appointment of an inquiry's chairperson and deputy-commissioners has the potential to have a significant impact on its investigation and in the acceptance of its outcomes. Appointments made in the Teague, Holmes, and Cooper inquiries raise questions over the integrity of their investigations. This impacts the implementation and acceptance of their recommendations. While concerns associated with the appointment of deputy-commissioners exist, these only minor influences on the post-disaster inquiries, it is important that appointments are carefully considered before finalisation.

Prasser (2006: 238) challenges the appropriateness of judges serving as a commissioner due to: the growing quantity of royal commissions post 1970, at both state, and commonwealth levels, the controversial topics under investigation, and the unprecedented criticisms that the approach faces. However, in the Teague, Holmes, and Cooper inquiries the appointment of judges did not impact the effectiveness of post-disaster inquiries. Despite this, it is important that their selection is paired with deputy-commissioners who hold relevant expertise to address their terms of reference and to conduct their investigations.

Central to the aim of all those appointed to post-disaster inquiries, should be that they objectively seek information to formulate their recommendations, with an aim to improve disaster preparedness and responses. In doing so, they should cause no distraction to the creditability of their investigation and recommendations, thus ensuring continued salience or at the very least, that they do not cause this to decrease.

### *Establishment stage: summary*

Decision-making throughout the establishment stage is directed towards the design of a post-disaster inquiry's terms of reference and the appointment of commissioners. These decisions have been shown to be influential to a post-disaster inquiry's success, as they influence its investigation and outcomes. Despite this, the establishment of post-disaster royal commissions must remain an institute of last resort for government, because it presents many differing variables and challenges, which impacts the strength, nature, and direction of their investigations, as well as if it is deemed a success or failure. Their overuse will cause the public to lose interest, especially if the impacts of recommendations and implementation are not experienced and evaluated.

Throughout the Teague, Holmes, and Cooper inquiries, decision-making during their establishment stage have been reviewed and suggested to have occurred with little, if any scrutiny. These choices

impact what occurs later in these inquiries, but as their establishment occurred relatively quickly after the disaster their investigations begun swiftly. Saliency in post-disaster inquiries was discussed to be at its highest when they are established and while there is little potential for this to be limited, it is important that efforts are made to keep the policy arena positive for change. This includes following a process that advocates lesson-learning and that reflects community expectations.

## Post-disaster inquiries: investigation stage

Throughout their investigation stage, public inquiries, whether post-disaster or investigating a different issue are guided by their terms of reference (Prasser 2006: 137-138). Various methods of consultation are utilised by post-disaster royal commissions, including community consultations, public forums, submissions, research papers, and public hearings. The consultation process can either be open or closed, and can also be restricted to a certain group of people. The adoption of different forms of consultation alter the nature and style of investigations, as well as their formality and structure. In the Teague, Holmes, and Cooper inquiries different methods of consultation were adopted, which had varying impacts on their investigations and the formation of their recommendations. This impacted their saliency and whether their recommendations were implemented.

This section reflects on where the investigation stage of post-disaster inquiries can be improved. It uses analysis of the Teague, Holmes, and Cooper inquiries to highlight where recommendations aimed at improving the investigation stage can improve disaster preparedness and responses through sustained saliency and an influence on ensuring the implementation of recommendations. This section looks at the need to facilitate the community's desire after a disaster to participate in a process of healing. It also discusses the use of extensive consultation where information is sought from knowledgeable actors to assist in addressing its terms of reference.

## *Community involvement in an investigation: healing, updating, and consultation*

Post-disaster inquiries represent an opportunity to uncover information from a variety of impacted and expert actors, but due to the nature of what they investigate and their closeness to the disaster, they seek to find someone to blame or find responsible. While these are a necessary phase of any post-disaster experience, it is important that if a post-disaster inquiry is established then this does not distract from its lesson-learning aims.

Methods must be adopted to ensure that community involvement in a post-disaster inquiry is not limited, but that discussions of liability, blame, accountability, or responsibility do not distract from the investigation's lesson identification and learning potential. The community has a significant role in the implementation of recommendations, particularly those that involve improving disaster preparedness

and responses. It is important that understandings from governments, emergency services, communities, and other relevant stakeholders accept and embrace the notion of shared responsibility for preparing and responding to a disaster. Embracing this notion recognises that responsibility for preparing and responding to disasters are shared between individuals, communities, emergency services, local and state governments (Dwyer 2015). It is important that these relationships exist before, during, and after a disaster (Dwyer 2015). This understanding is influential to ensuring that everyone during a disaster understands how best to manage, mitigate, and survive the event and its impacts. Accordingly, when undertaking a post-disaster inquiry or any form of response participation from all actors is necessary.

In the Teague and Holmes inquiries, attempts to facilitate discussions with impacted communities were made, even if this did not directly reflect its terms of reference. The Teague and Holmes inquiries conducted community consultations as a way of involving members of the public directly affected by the disasters. These were important for providing background information on the disasters, but were also useful for supporting community healing and reconciliation. Between 18 March and 8 April 2009, the Teague Inquiry held 26 community consultations across fire-affected areas (Teague 2010a: 1). The Holmes Inquiry held its community meetings in 16 locations across central, southern, and western Queensland, which were all areas affected by the 2010-11 floods. Despite their importance in providing background information on the disaster and disaster type, none of the evidence gathered from community consultations was considered formal, nor was it used to produce their interim and final reports, conclusions, and recommendations. However, they are important in the Teague and Holmes inquiries for framing and shaping the scope of what was latter investigated, because commissioners used these to determine areas necessary to address in later consultation (Teague 2010a: 1).

No community consultations were conducted by the Cooper Inquiry, but its specific and narrow terms of reference was more concerned with building failure and as such it used research papers to facilitate initial information gathering. It also did not require the community to be as involved in the implementation of its recommendations, because these were policies and procedures that required government and stakeholder responses.

The Holmes Inquiry's deputy-commissioner O'Sullivan chaired its community consultations. Beyond allowing community members to voice their experience of the 2010-11 floods, it also provided information on how community members could participate further in its hearings. The Teague and Holmes inquiries used community consultations to identify individuals and organisations from whom they sought further information.

Community consultations provide an opportunity for those directly impacted by the disaster to contribute to discussions about blame, liability, responsibility, and accountability. While its terms of

reference dictate the discussion and outcomes of post-disaster inquiries, decision-making must ensure that this does not distract from lesson-learning opportunities. Due to the benefits of readily available information to an investigation and its potential for enabling lesson-learning, it is important that post-disaster inquiries facilitate this process, but allow for communities to adequately discuss issues of importance to sustain their salience and attention.

This thesis argues in favour of the continued use of community consultations, especially if an inquiry follows a catastrophic disaster where lives were lost and property destroyed. However, community consultations should be extended to ensure the reporting of the inquiry's progress. It should also include information about how relevant community members can contribute further to its investigation. Lastly, community consultations should provide information about the roles of all in an inquiry's post-investigation stage. Ensuring this will assist with the implementation of its recommendations.

The Teague Inquiry's broad terms of reference allowed for an open process of consultation that included the airing of grievances. This results from its commissioners recognising the important role that they had in contributing to community healing after the 2009 bushfires (Teague 2010a: 1). When open methods of consultation are adopted, it is important that an inquiry does not become dominated by a focus on blame, liability, and accountability, because this distracts attention away from the recommendations and findings that act as lessons for how to be better prepared for, respond to, and mitigate disasters.

The case study chapters pointed to the initial consultations of the Teague, Holmes, and Cooper inquiries being about the gathering of background information that was used to frame and undertake the remainder of its investigation. The commissioners used this information to make knowledgeable conclusions and recommendations, specifically regarding what had been identified throughout their investigation.

The significance of consultation with those impacted by the disaster within post-disaster inquiries supports Lipsky's 'street-level bureaucrats' approach to implementation. This thesis supports a bottom-up approach to implementation and suggests that the use of community consultations, such as those in the Teague Inquiry supports this. However, as affirmed in its recommendations, this thesis believes that the use of community consultations can be furthered to support the implementation of a post-disaster inquiry's recommendations.

Community consultations have the potential to provide a forum for public concern to be voiced, but it is also an opportunity for commissioners to share their intentions for how the implementation of their recommendations should ideally proceed. Sharing this early with those who will be responsible for the implementation of recommendations, provides valuable knowledge that assists this process and

improves the likelihood of lesson-learning. The literature review (Chapter 2) underlines the important role that an abundance of knowledge has in the development and implementation of policy, especially if it is available to relevant and impacted actors.

The use of public forums or community consultations at the beginning of the Teague and Holmes Inquiry, while not directly related to their scope and terms of reference provides an opportunity for affected community members to share their experiences. It also provides commissioners with an opportunity to gain firsthand knowledge about the experiences of those impacted by the disaster. Despite the extra time taken to undertake these public forums, it is important to recognise the contribution of community consultations to the Teague and Holmes inquiries' investigations.

### *Information gathering: knowledgeable actors, submissions, and hearings*

A post-disaster inquiry's investigation is dependent on information gathering. Various methods of consultation are available to achieve this, perhaps most notably engaging with relevant actors who can help achieve lesson-learning that improves disaster preparedness and responses. The nature of decision-making throughout the design of a post-disaster inquiry's terms of reference and appointment of commissioners influence its adoption of information gathering tools (Prasser 2006: 138-139). The underlying reasons for an inquiry's appointment will prescribe the importance of information gathering and accordingly the methods of consultation it adopts (Prasser 2006: 138). Consultation in a post-disaster inquiry, because it is key to the process of information gathering, determines whether it performs a rational problem-solving role. This is judged by whether its reports, recommendations, and findings are firmly based on clear evidence (Prasser 2006: 138). This amplifies the importance of decision-making throughout its establishment, because the appointment of commissioners affects information gathering, especially if they possess biases, previous knowledge, and experience (Prasser 2006: 138).

Instead of using their information gathering powers to identify where policies and procedures can be improved to address concerns with disaster preparedness and responses, post-disaster inquiries have been more likely to use their powers to uncover information regarding who was at fault or responsible for the disaster's occurrence, especially if the terms of reference facilitate this. The Teague, Holmes, and Cooper inquiries were all inquisitive in style and favoured the discovery of 'facts' and allocation of blame.

Differences in the methods of consultation limit the ability for impacted or interested parties to participate and feel included in a post-disaster inquiry. This has the potential to lead to concerns that they were ignored and that issues of importance were excluded. The Cooper Inquiry's specific terms of reference limited the scope and quantity of submissions, instead it specifically sought evidence and



knowledge from relevant experts (local government, educational institutions, and engineers). Other information was gained through responses to pre-released discussion papers, technical reports, and research papers that directly related to the Cooper Inquiry's terms of reference. Submissions relating to these papers and reports were central to narrowing the issues investigated by the Cooper Inquiry and these were conducted prior to the public hearings. The Cooper Inquiry's direct focus on building failure caused by the 2010-11 earthquakes, rather than the disaster itself, led to only 80 expressions of interest being received by its 22 July 2011 deadline. Interest in providing evidence came from those who had been trapped in buildings because of the February 2011 earthquake, as well as building owners and tenants, persons with professional knowledge about matters arising in the Cooper Inquiry, learned societies, the Auckland Council, the Christchurch and Wellington City Councils, Local Government New Zealand, and the former Department of Building and Housing (now MBIE). Beyond those who seek to participate in a post-disaster inquiry's consultation, commissioners have the ability to identify organisations who may provide further information that they believe will support its investigation. However, it is important that the information gathered from actors are scrutinised and accepted as holding bias. The Cooper Inquiry had, wherever possible, all its advice peer reviewed by overseas experts.

Despite attempting to avoid assertions surrounding accountability and blame, the Holmes Inquiry made every attempt to consult with and listen to impacted communities, it obtained statements, and evidence from a variety of sources, using the powers provided to it under the *Commissions of Inquiry Act 1950 (Qld)*. This legislation gave it power to obtain statements and documents from members of the public, experts, public servants, and members of NGOs. Some of those individuals were also called as witnesses in the Holmes Inquiry's public hearings.

The Teague Inquiry's terms of reference dictate that it undertakes a wide range of consultation, as it sought to address all issues relating the 2009 bushfires. It sought and accepted submissions and evidence from any stakeholder, specifically relating to its wide-ranging terms of reference. A large scale consultative process increases the quantity of information available to undertake its investigation and formulate its recommendations, but it also has the potential to increase a post-disaster inquiry's duration, especially if consultation is not controlled to reflect its terms of reference. Submissions to the Teague, Holmes, and Cooper inquiries assisted with refining their investigation and identifying issues addressed throughout their consultation.

It is rare that any actor is excluded from participating in a post-disaster inquiry. At the very least everyone should be allowed to contribute a submission, but any that are considered further should relate to its terms of reference. This was the approach adopted in the Teague, Holmes, and Cooper inquiries, but the narrow focus of the latter saw more excluded and less seek to be involved.

Due to the nature and scope of their investigations, a variety of actors involve themselves in post-disaster inquiries. Central to the consultation of the Teague, Holmes, and Cooper inquiries is not just the involvement of these actors, but whether the commissioners chose to exclude them from part or all the consultations. In the Teague and Holmes inquiries, considerable time was taken in the early stages of their investigations to hear from impacted community members. These community members shared firsthand stories and experiences of the respective disaster. This highlights the inclusion of actors not seen in the Cooper Inquiry, where less of a focus was on responsibility; instead attention was placed on the structural issues that facilitated the consequences of the disaster and the related legislation and building practices.

Knowledgeable actors with relevant expertise are important to post-disaster inquiries and help ensure recommendations are well thought out, specifically they must also look to consult those that the implementation will affect. This knowledge and the involvement of relevant actors is important to a post-disaster inquiry reaching recommendations that achieve better disaster preparedness and responses, so that they can be effectively implemented. Involving actors who influence, or are responsible for, implementation in the design of recommendations will also contribute to sustained salience and attention towards post-disaster inquiries.

### *Sustaining salience in post-disaster inquiries through their investigation*

A lack of salience and attention towards the investigation of a post-disaster inquiry results from the memory of the disaster or event decreasing over time. Despite being technically complex and politically contentious, sustaining attention towards the scope of a post-disaster inquiry's investigation must be shaped by relevant stakeholders and the public's desire to 'get it right'. Maintaining salience in the investigation stage is important for ensuring that interest and attention continues beyond a disaster's occurrence and its establishment of a post-disaster inquiry. It is hoped that this attention lasts until the implementation of its recommendations. Ensuring that a post-disaster inquiry's investigation reflects the expectations of key stakeholders and the community, as well as its findings and recommendations result in lasting lesson-learning that promotes effective reform to future disaster preparedness and responses, is dependent on salience, and interest in it.

Dealing with complex issues, such as those examined in a post-disaster inquiry has its challenges. Holmes (2010: 387) suggests that there is a need for post-disaster inquiries to enlighten, rather than confuse, and that our focus on looking for someone to blame after a catastrophic event, does nothing but obscure discussions about policy developments and lesson-learning. Holmes (2010: 387) asserts that confusion results from the adversarial role of inquiries, such as in the Teague Inquiry, where it is argued that counsel seemingly had decided on a narrative prior to any hearings and information being

investigated. When examining its role in the various inquiries examined in this thesis, grief creates “an obscure, muddled process, a process almost universal, one with no logic and no timetable” (Mantel 2014). This puzzle of grief is central to disaster responses, but further research is required to understand the impact of this on a post-disaster inquiry, especially whether the airing of traumatic experiences in this setting contributes to healing.

Central to the scope of the Teague Inquiry’s investigation, as it should be for all post-disaster inquiries, is that priority throughout its process, findings, and recommendations is given to the protection of human life. Part of the Teague inquiry’s focus was on progressing the idea of shared responsibility, which stresses the need for governments, stakeholders, fire agencies, communities, and individuals to work together. This idea will contribute to salience because this wide range of actors feel involved in the process. It is imperative that these actors see their participation as contributing to the post-disaster inquiry’s investigation and formation of recommendations.

Despite concerns over salience, the occurrence of a disaster creates the perfect opportunity for reform. Downs’ (1972: 38) issue-attention cycle highlights how public attention towards issues of importance to society “suddenly leap into prominence, remain there for a short time, and then gradually fade from the centre of public attention”. This cycle provides an insight into how the decision-making process impacts the public’s attention towards an issue and whether it will remain sufficiently focused enough to promote policy change (Downs 1972: 38). Downs’ theory assists in understanding the need for an adequate disaster response that aims to achieve lesson-learning. The establishment of a post-disaster inquiry fulfils this, but does not always maintain salience towards the disaster, because this action for many represents lessons being learned, even if this does not occur. When post-disaster inquiries, such as those examined in this thesis, take over twelve months to complete their investigations, it is important that sustaining salience in their investigation and recommendations is a central aim. This is significant, especially when the implementation of recommendations is what judgements of post-disaster inquiries are based on.

Interim reports, as were produced by the Teague, Holmes, and Cooper inquiries act as a method for maintaining salience in a long investigation. They provide recommendations based on early findings, especially with regards to potential disaster threats that need to be addressed prior to the final report’s release. As a post-disaster inquiry’s success is dependent on salience and recognition of the implementation of recommendations, interim reports provide an opportunity to maintain interest in its work by providing an update of its progress and recommendations that will assist with immediate disaster preparedness. However, to maintain salience the production of interim reports should include an update of how stakeholders have been involved and to what extent they can continue to contribute to a post-disaster inquiry’s investigation.

Attention from implementers has been assessed in each case study chapter, specifically through an examination of interest in the interim report of each case and their respective recommendations. Media reports, public comments, and the reports themselves act as discussion of ideas, which Birkland (2006: 19-20) stresses is an important step of learning from a focusing event. This thesis asserts that salience is maintained through attention. As such evidence of event-related learning stemming from a post-disaster inquiry and its interim and final reports are examples of how salience is sustained. In each of the cases, changes in the way the media reported on the event, including stories on the disaster are evidence of learning. Birkland (2006: 21) stresses that some form of change either initiated or supported in the news media or by interest groups, parliament, and regulatory and implementing agencies is an example of learning. However, it is important to reflect that this judgement, which has been made by this thesis in relation to each of the Teague, Holmes, and Cooper inquiries is a qualitative judgement. Beyond this, the advancement of knowledge from interim reports may not lead to policy change, but supports the accumulation of knowledge that may promote learning from other similar reports, such as the final reports of each post-disaster inquiry or a further similar event.

With little attention on recommendations beyond their reporting in post-disaster inquiry reports, salience is often not sustained to their implementation. This is a result of little attention being given to how these recommendations will be implemented and what role those impacted have in this process. To sustain salience, the reporting of recommendations in both interim and final reports should provide evidence for their inclusion and this should also outline how the implementation is intended to occur.

Public attention on a post-disaster inquiry's investigation is influential in shaping whether its recommendations will be listened to and learned from. Earlier in this thesis a catastrophic disaster was considered a focusing event, because its impacts gain widespread attention, as such post-disaster inquiries receive substantive media attention at their establishment. Examinations of the Teague, Holmes, and Cooper inquiries, specifically at their establishment suggest a high level of salience and attention towards its investigation. However, Birkland (2006: 20) asserts that as learning potential decreases over time, it is important that post-disaster inquiries and their commissioners seek to maintain salience. The Teague Inquiry was able to maintain interest through its focus on blame, responsibility, and accountability, rather than the lessons that are being objectively identified based on fact through its investigation. The public's and media's focus on this was successful in maintaining interest, but questions raised in this thesis remain over whether benefits or strong lessons exist through attention that focuses on these areas.

While a lack of data makes it difficult to make any substantive connection, the lack of attention towards the findings, conclusions, and recommendations of the Holmes Inquiry's post-investigation stage must in part be attributed to the Alan Jones-led media campaign. This campaign asserted that the Holmes

Inquiry had been a cover up to avoid and distract attention away from blame. Much of this campaign was led by the media, who shared their negative perceptions of the Holmes Inquiry and its recommendations, which influenced interest in their implementation. Thus, it can be suggested that negative attention or salience that is directed away from the recommendations of a post-disaster inquiry impacts the potential for its lessons to improve disaster preparedness and responses.

Salience and attention are important to a post-disaster inquiry, the undertaking of its investigation, and the implementation of its recommendations. Its sustainment is dependent on fulfilling the expectations of various actors directly and indirectly impacted by a catastrophic disaster. These expectations should not supersede the task of a post-disaster inquiry in sustaining an arena positive for change, where specific attention towards the formation of its recommendations encourages the implementation of recommendations that improve disaster preparedness and responses.

### *Investigation stage: summary*

The outcomes of the investigation stage of a post-disaster inquiry are important, because these are presented as recommendations that aim to improve disaster preparedness and responses, while also mitigating their future occurrence. These relate directly to the terms of reference and reinforce the importance of considered decision-making during a post-disaster inquiries establishment. Community consultations, should as they did in the Teague and Holmes inquiries occur at the beginning of the investigation stage. These should be used to guide the beginning of an investigation and assist with uncovering where factual and objective information used to formulate a post-disaster inquiry's findings and recommendations. Consultation should be widely undertaken, but it should not waste time on issues not relating to its terms of reference. Screening submissions is important, as are categorising these in relation to what part of its terms of reference they address. Instrumental to lesson-learning through a post-disaster inquiry is that its investigation reflects a well-designed terms of reference.

The volatile nature of disasters, as well as the mixture of emotions and motivations for the establishment of post-disaster inquiries, highlight the benefits that community consultation, similar to those of the Teague and Holmes inquiries provide to disaster responses. While representing the potential for delay and distractions, community consultations provide an opportunity for the inquiries to consult with those directly impacted by the catastrophic disasters. This not only supports the process of community healing and reconciliation by providing communities with an opportunity to share their stories, but is vital in framing the initial period of an investigation. Similarly, the use of research or discussion papers helps frame the initial part of an inquiry's investigation, especially if its terms of reference are specific and narrow, such as those in the Cooper Inquiry.

Community consultations can also provide progress reports that illustrate the work being undertaken. This approach could also inform individuals of how they can contribute to the investigation, but also how they can help with the implementation of recommendations. This supports a bottom-up approach to implementation, because it involves actors responsible for enacting these in their development and should at the very least explain their potential role in ensuring lessons are learned.

It is through consultation that post-disaster inquiries and their conclusions gain legitimacy. Community participation in governance is central to representing the interests of citizens. This is especially important around issues associated with a disaster, because they have a confronting and destructive impact. It is important that ideas of shared responsibility, the implementation of recommendations, and improvements to preparedness and responses are the focus of the investigation stage of post-disaster inquiries. Decision-making, with regards to the inclusion or exclusion of actors from its investigation, is also central to a post-disaster inquiry's investigation stages.

It is important that salience and public interest in the inquiry extend throughout the investigation stage. Salience or public interest in an inquiry is dependent on its investigation reflecting community expectations. Failure to adequately investigate an issue could result in distractions when its recommendations are implemented or evaluated. Throughout the Teague, Holmes, and Cooper inquiries decision-making during the design and undertaking of their consultation impacts the success or lack thereof in lesson-learning that aims to improve preparedness and responses.

## Post-disaster inquiries: post-investigation stage

A post-disaster inquiry's post-investigation stage begins with the publication of its report and is where the input of actors throughout its establishment and investigation stages are turned into outcomes. Outcomes of post-disaster inquiries are not just the reporting of their recommendations, but are also their implementation and evaluation. Despite this being where judgements of a post-disaster inquiry occur, little attention exists on the post-investigation stage throughout its investigation, because it is often an ignored process. This is only made more of a problem by commissioners ending their responsibility for a post-disaster inquiry with the publication of its final report. As a result of this, the post-investigation stage is underappreciated and is regularly not viewed as part of a post-disaster inquiry's process. This thesis stresses the importance of viewing the post-investigation stage as part of the broader process of a post-disaster inquiry, especially if its outcomes are to inform improvements to disaster preparedness and responses, but also mitigate their future occurrence.

The post-investigation stage is important in assessments of how successful or effective a post-disaster inquiry is in increasing knowledge, improving preparedness and responses, and mitigating the future impact of disasters. As with all policy development, it is important that for a post-disaster inquiry's

success that the implementation of its recommendations is considered throughout their design. Specific attention should be given to how this will occur and which actors will be involved. Despite this, the post-investigation stage is largely ignored, due to a lack of consideration regarding how implementation will proceed. The lack of salience and attention towards the implementation of recommendations in the Teague, Holmes, and Cooper inquiries, disrupts their post-investigation stage and is a result of decision-making in early stages.

This section proceeds by looking at obstacles to the effective undertaking of the post-investigation stage, but also identifies areas where improvements will support post-disaster inquiries in identifying lessons and ensuring these are learned. This is achieved through its analysis of the Teague, Holmes, and Cooper inquiries. This section begins by discussing how further attention needs to be directed towards the post-investigation stage of a post-disaster inquiry, with a specific focus on the transfer of knowledge from those responsible for undertaking the investigation to those accountable for the implementation of recommendations. This section then reflects on salience and attention towards the post-investigation stage of a post-disaster inquiry. It stresses the importance of adequate consideration at this stage for the effective implementation of a post-disaster inquiry's recommendations. This process must be recognised by the public, so that they see that the post-disaster inquiry has achieved of lesson-learning that improves disaster policies and procedures, because this will support the continued utility of the approach.

### *Implementing and evaluating recommendations: transferring knowledge and accountability*

Traditional understandings of the post-investigation stage of royal commissions are that their recommendations are implemented with little, if any evaluation. Much of this derives from the responsibility for the implementation of recommendations not resting with those accountable for designing them. After the release of their final report, the commissioners of post-disaster inquiries cease their responsibility and in the Teague, Holmes, and Cooper inquiries it became the role of governments to review and accept their recommendations. In each case, governments were forced to make decisions about how the implementation would occur and who would be responsible for it. This is despite post-disaster royal commissions being independent of the government that establishes them. Governments are also left without guidance for how the implementation of recommendations should proceed.

Central to understandings of why some recommendations of post-disaster inquiries are not implemented immediately, specifically in the Teague, Holmes, and Cooper inquiries, rests not just on the sheer number of recommendations produced, but also in the need for these to be addressed through legislative changes, as well as the political context surrounding decisions on their implementation. In the Holmes

inquiries, a change in government occurred between the establishment and conclusion of the investigation. Despite claims from the incoming Campbell Newman Liberal National Party Government that they would implement the recommendations and findings of the Holmes Inquiry in full, they did not face the same scrutiny or desire for change that the former government experienced, because they were not directly responsible for the event (ABC Online 2012).

A change in government in Victoria in November 2010, after the Teague Inquiry's final report and recommendations had been delivered, was met with a new government who promised to consider all the recommendations. This support was despite concern at the establishment of the Teague Inquiry from the then opposition about the proposed terms of reference, which were being discussed between Victoria's two major parties (Austin 2009b). However, the catch-all phrase included in the Teague Inquiry's terms of reference, specifically granting the commissions the explicit power to investigate and make recommendations on "any other matters that you deem appropriate in relation to the 2009 bushfires", was in the end key to ensuring bipartisan support that extended beyond changes in government (Austin 2009b).

Despite debates continuing within both Victorian and Queensland jurisdictions regarding how we learn from the 2009 bushfires and 2010-11 floods, specifically regarding the recommendations of the Teague and Holmes inquiries, political changes have left different governments responsible for responding to their findings.

Beyond this, a period of relative stability in New Zealand politics has seen the Cooper Inquiry's recommendations and findings considered consistently. Instead, discussion regarding the implementation of its recommendations and lesson learning potential relates to debates about a post-disaster inquiry's terms of reference and how this shapes its investigation. These debates distract attention from the focusing events and the associated post-disaster inquiry's attempt to reach meaningful recommendations and present lesson learning opportunities.

Stopping a disaster becoming a political disaster is dependent on governments acting or at least appearing to act. The establishment of a post-disaster inquiry realises this, but debate surrounding its direction or scope centres on its political context and whether decision-making impacts the implementation of its recommendations, as well as whether salience exists at the end of its process. The absence of sustained support, in both a political and policy context assist in the transfer of knowledge.

The question for this thesis, is how beyond all political involvement and the sheer quantity of recommendations do we ensure that recommendations are addressed or at the very least considered on the merit of how appropriate or achievable they are? Through mechanisms that improve the transfer of knowledge and accountability, the implementation and evaluation of a post-disaster inquiry's



recommendations can be improved. The accumulation and application of knowledge in each of the Teague, Holmes, and Cooper inquiries highlights the need to pursue post-disaster inquiries to learn and inform lessons that lead to better policy. Beyond this, the political context surrounding each case and the decrease in salience as time passes after the focusing event have impacted the implementation of recommendations.

Paired with this, the plethora of recommendations across the Teague, Holmes, and Cooper inquiries makes the transfer of knowledge harder, especially when these cover a diverse range of areas that require responses from numerous departments. This also challenges accountability in the post-investigation stage, because this is shared between multiple actors. Table 7.1. pinpoints the exact quantity of recommendations that were reached in each of the Teague, Holmes, and Cooper inquiries, while the plethora of government agencies responsible for their implementation were outlined in the respective case study chapters. This information points to implementation and knowledge transfer being difficult, especially in the immediate aftermath to the conclusion of a post-disaster inquiry, notably due to the sheer number of recommendations.

In each of the Teague, Holmes, and Cooper inquiries, coordination between government agencies and with other levels of government slowed down the transfer of knowledge and implementation of recommendations. Paired with this and changes in leadership and government, is the decrease of attention towards the disaster as time passes. Competing agenda items will affect the implementation of recommendations, due to the memory or desire for change after a disaster decreasing.

Evaluating and reviewing the success of disaster preparedness, responses, and recovery through a royal commission provides benefits, because it highlights how other jurisdictions can learn from its occurrence and help ensure it is not repeated. Important to policy learning is the concept of policy transfer. Policy transfer occurs when one policy is implemented and its success results in other jurisdictions adopting the policy.

Transferring knowledge between the stages of a post-disaster royal commission has been shown to be difficult, most notably due to the limited involvement from actors involved in the design of recommendations in their implementation. There is a need to ensure a continuity of knowledge and awareness of how a community properly prepares for, responds to, and manages the consequences of a disaster. To ensure limited policy regress and a continuity of knowledge, information needs to be shared between those responsible. Lesson sharing should involve briefings and feedback on how to precede with the implementation of recommendations. Those responsible for their implementation should also be able to reflect on the likelihood or challenges associated with this process, especially in their design.

Despite an absence of accountability in the post-investigation stage, attempts have been made to influence and ensure the implementation and evaluation of recommendations. The Teague Inquiry aimed to encourage the implementation of its recommendations, but did not enforce their acceptance or outline how they would be implemented. The Teague Inquiry's 66<sup>th</sup> recommendation suggests that the Victorian Government establish the BRCIM, whose task it would be to monitor, review, and report on the progress of the government, community, and other relevant stakeholders in implementing its recommendations (Teague 2010a: 37). The aim of this was to ensure that consideration and action was taken in the post-investigation stage. This addresses inaction or a lack of attention towards the Teague Inquiry's recommendations. Its role was to evaluate and review the role of actors in implementing the Teague Inquiry's recommendations, whether those be stakeholders, the emergency services, the community, business groups, or different levels of government. Despite a lack of attention to the process, the BRCIM provided updates regarding the implementation of the Teague Inquiry's recommendations.

The BRCIM was established in response to a recommendation of the Teague Inquiry. It was required to provide a review and assessment of progress relating to the implementation of the Teague Inquiry's recommendations. Despite sustained attention towards the implementation of the Teague inquiry's recommendations, through the BRCIM, and later organisations, distractions in the post-investigation stage divert attention from this process towards issues of interest to the media and public. In the Teague Inquiry focus was directed towards related legal undertakings, as well as the ramifications of its assessment of issues of blame and responsibility, most notably issues surrounding Victorian Police Chief Commissioner Christine Nixon.

The Queensland Government, in the aftermath of the Teague Inquiry saw the benefits of establishing an institution to perform a similar role to the BRCIM. A slightly different approach was undertaken after the Holmes Inquiry, with the Queensland Government developing a framework to guide, coordinate, and monitor the implementation of its those recommendations it had accepted (Queensland Floods Commission of Inquiry Final Report Implementation Update 2014: 2). This task involved considering the over 170 recommendations of its interim and final reports. As such, five different implementation groups were established to monitor and achieve the successful implementation of the Holmes Inquiry's recommendations (Queensland Floods Commission of Inquiry Final Report Implementation Update 2014: 2). A committee of Queensland Government chief executives oversaw the implementation of the Holmes Inquiry's recommendations (Queensland Floods Commission of Inquiry Final Report Implementation Update 2014: 2). Responsibility for all recommendations that were not yet implemented by 2014 were handed to relevant government departments.

In response to the release of the Cooper Inquiry and its recommendations, the New Zealand Government instigated its own response to their implementation. They adopted a multi-staged approach to respond to the Cooper Inquiry's 189 recommendations, where relevant government departments were made responsible for their implementation. By August 2012, the New Zealand Government had accepted at least 70 of the Cooper Inquiry's recommendations (McVeagh 2013).

Further attention must focus on the post-investigation stage of post-disaster inquiries, especially throughout their occurrence, and on the implementation of recommendations. Consideration of how these would be implemented, as well as consultation with those who it directly involves, is central to effective recommendation implementation. Transferring knowledge gained during the investigation stage to the post-investigation stage is influential to its ability to have recognised lesson-learning.

### *Attention and salience in a post-disaster inquiry's recommendations: extending to their implementation and evaluation*

Sustaining salience, interest, and attention towards the outcomes of a post-disaster inquiry are important, particularly if the implementation and evaluation of its recommendations determine its success. It is therefore necessary to view post-disaster inquiries as a single process. From its establishment through to its post-investigation stage consideration must be given to how attention can be sustained towards achieving its desired aims. This will help ensure the implementation and evaluation of an inquiry's recommendations.

Salience and its absence from a post-disaster inquiry, especially as time progresses from the disasters occurrence, impact the recognition of whether lessons have been learned. Salience and attention towards a post-disaster inquiry and its recommendations is dependent on decision-making throughout its establishment and investigation. However, the overuse of post-disaster inquiries or royal commissions also causes fatigue with the approach. This will also impact whether rational objectives in their establishment can be identified and if attention towards the disaster and a memory of it is sustained.

The Teague, Holmes, and Cooper inquiries reviewed in this thesis produced an interim report that provided early recommendations and findings from their investigations. These are an important part of a post-disaster inquiry's process. While the investigation stage continues after the release of an interim report, the post-investigation stage also begins. The implementation of these early recommendations is important to large post-disaster inquiries, because it increases salience, and attention in their investigation. This demonstrates to the public and stakeholders that the inquiry is already causing lessons to be learned. Perceptions of a post-disaster inquiry are vital to its success. When this perception is negative or focused on issues unrelated to lesson-learning, salience in its investigation and findings,

as well as their appropriateness are challenged. The establishment of institutions, like the BRCIM place an emphasis on the implementation of recommendations to ensure lessons are not just identified, but that they are learned, so that preparedness and responses are improved.

The BRICM after the Teague Inquiry and other similar institutions after the Cooper and Holmes inquiries performed an important coordination role after the conclusion of their reports and recommendations. The duty of the BRCIM was just as much about organising those responsible for the implementation of recommendations, as it was about ensuring attention and focus towards these results in some form of learning. As previously outlined, learning or continued salience in the recommendations and lessons of post-disaster inquiries can be judged through changes in the behaviour of actors.

The question regarding the establishment of institutions responsible for monitoring the implementation of recommendations, is whether they make a significant difference or does a deeper understanding of their role, as well as the ability to effectively engage existing institutions matter more? While containing little data that supports findings in the area, this thesis asserts that successful implementation in the Cooper and Holmes inquiries supports the hypothesis that existing implementation institutions, specifically government departments or other agents of government will still result in the successful implementation of recommendations. This thesis asserts that influential to the implementation of a post-disaster inquiry's recommendations is some form of coordination by a lead actor with knowledge, as well as the ability to effectively engage all relevant institutions.

The implementation of a post-disaster inquiries' recommendations is dependent on perceptions. This assists with determining whether lessons that are identified throughout their investigation are learned. Differences in the duration and size of their reports alter public opinions and perception of the Teague, Holmes, and Cooper inquiries, as well as other post-disaster inquiries.

Part of the BRCIM's role was to sustain attention on the Teague Inquiry's recommendations throughout their implementation. Past experiences dictate that the focus of a post-disaster inquiry's post-investigation stage will not remain on the recommendations and their implementation, especially if they have been lengthy and if salience has been lost or directed elsewhere. The BRCIM, throughout its duration provided yearly reports and updates of their progress regarding the implementation of the Teague Inquiry's recommendations.

Despite attention towards the implementation of their recommendations, the Teague, Holmes, and Cooper inquiries suffered from a lack of adequately considered connections between their investigations and recommendations. A focus on the implementation of recommendations throughout a post-disaster

inquiry's establishment and investigation supports, not just the identification of learning, but these being learned.

Sustained salience and attention is not only achieved through the consideration of recommendations, but also through deliberations of how they will be implemented. This should occur throughout an inquiry's establishment and investigation, but should be shared with those responsible for their implementation. In each of the cases, salience was dependent on the strength, nature, and content of their recommendations, but also the responses to these by governments, communities, and relevant stakeholders. When this is ill-considered, salience decreases and the appropriateness of the approach is questioned. This has led to a loss of faith in post-disaster inquiries, specifically their lessons, which is increased by fatigue from too many occurring in a short timeframe. Communities and stakeholders continue to lose faith in the ability for governments to respond to disasters and in the investigative skills and findings of post-disaster inquiries (Eburn and Dovers 2015), as has exhibited through concerns with the findings of each of this study's cases.

### *Post-investigation stage: summary*

The post-investigation stage is an often neglected or forgotten stage of a post-disaster inquiry. It occurs after the formation of its report and recommendations. The post-investigation stage is where the implementation and evaluation of recommendations should take place. The lack of accountability on those who design these after their announcement are central to why they are often ineffective and not recognised as lessons that improve disaster preparedness and responses.

The post-investigation stage is where processes of change should occur, but also where judgements are made on a post-disaster inquiry's success. The analysis has shown that consideration of a post-investigation stage throughout a post-disaster inquiry's earlier stages will improve the implementation of its recommendations. It also noted that attempts made to strengthen the implementation of recommendations have been beneficial, especially in the Teague Inquiry with the establishment of the BRCIM, but these have not adequately served the purpose of ensuring their success.

This section highlights a lack of scrutiny towards a post-disaster inquiry's recommendations and calls for greater evaluation of inquiries, recommendations, and their implementation. Only then can understandings of the impact of these inquiries and their recommendations on lesson identification and learning be determined. Sharing of knowledge after a disaster can ensure that its consequences are not repeated or that they are mitigated.

## Summary of post-disaster inquiries

Decision-making throughout the establishment, investigation, and post-investigation stages of post-disaster inquiries are intertwined. Shortcomings of the methods and decision-making undertaken throughout the Teague, Holmes, and Cooper inquiries, as well as their strengths illustrate where improvements can alter the appropriateness and usefulness of post-disaster inquiries. Understanding post-disaster inquiries as a singular process is central to their success, especially if this involves the implementation and consideration of recommendations. This section summarises this chapter, but also demonstrate how the failure for lesson-learning to be recognised in the Teague, Holmes, and Cooper inquiries challenges the continued utility of the post-disaster inquiry approach. It highlights where and how salience in their investigations and the implementation of recommendations can be improved. This thesis asserts that increased salience and attention towards post-disaster inquiries, throughout their entire establishment, investigation, and post-investigation stages will assist with improving disaster preparedness and responses.

This section identifies a series of key themes, which apply to a post-disaster inquiry when it is viewed as a singular process. Using evidence from the information provided on the Teague, Holmes, and Cooper inquiries, this section concludes this chapter's analysis. It discusses where changes to how we understand and approach decision-making throughout a post-disaster inquiry will improve its lesson identification and learning potential. Everything discussed in this section, is fuelled by the aims of this thesis, which include sustaining salience and interest in improving disaster preparedness and responses through the use of post-disaster inquiries. The improvement of disaster preparedness and responses is facilitated through the implementation of a post-disaster inquiry's recommendations. This analysis is reflected in the recommendations that are part of the conclusion of this thesis (Chapter 8).

### *From establishment to post-investigation: post-disaster inquiries as a single process*

Differing aims fuel decision-making throughout the establishment, investigation, and post-investigation stages of a post-disaster inquiry, but it is important in the development of lessons that all actors share the aim of implementing these. Different actors hold responsibility for the various stages of a post-disaster inquiry and there is a lack of accountability on those who design its findings and recommendations on their implementation. This lack of responsibility impacts an inquiry's success, especially as post-disaster royal commissions hold responsibility for the implementation of their recommendations, but remain independent of their investigations. Viewing a post-disaster inquiry as a single process, from its establishment through to the implementation and evaluation of its recommendations, where its central aim is lesson-learning, relies on shared aims existing between all

actors responsible for decision-making. These actors must also ensure adequate consideration of how their decisions impact the overall aim of recommend the inquiry. An inquiry's commissioners must also reflect on how the implementation of its recommendations will occur.

In the Teague, Holmes, and Cooper inquiries the responsibility for enforcement and implementation of the recommendations rests with executive government. Central to concerns associated with post-disaster inquiries (as it is with royal commissions more widely), is that they are not a court of law, nor are they a parliament. Therefore, they have no legitimate enforcement or decision-making power, except for that granted to it at their establishment. Commissioners lack the authority and level of accountability to ensure the implementation of their recommendations.

Part of the problem of seeing post-disaster inquiries as a single process is that the role of commissioners ends with the finalisation of their reports and recommendations. In the Teague, Holmes, and Cooper inquiries the finalisation of their reports ended all responsibility for the commissioners in their respective inquiries. Beyond decision-making power throughout a post-disaster inquiry's establishment, there is little influence from executive government during their investigation. The government's limited influence on the investigation stage of a post-disaster inquiry is limited to designing the terms of reference and appointing commissioners. Despite the independence of post-disaster inquiries from government, it is necessary they involve themselves in the investigation stage, especially as in the Teague, Holmes, and Cooper inquiries executive government has responsibility for the implementation of recommendations. Consultation with executive government should occur, so that they can assess the appropriateness of recommendations and likelihood of these being successfully implemented.

In the Teague, Holmes, and Cooper inquiries consideration of how their recommendations would be implemented was not undertaken until after the finalisation of their reports. A disconnect exists between their investigations, including its hearing, findings, the formation of its recommendations, and their implementation. As the size and duration of post-disaster royal commissions increase, it is important that further consideration is given to the implementation of recommendations, especially as these processes are how this thesis judges their success.

The idea of shared responsibility exists not just as an idea that fuels disaster policy development, but should form part of how the implementation of a post-disaster inquiry's recommendations is achieved. As many recommendations in the Teague, Holmes, and Cooper inquiries involve participation from various stakeholders, it is essential that responsibility for their implementation is shared. This is dependent on all actors and relevant stakeholders realising that a post-disaster inquiry is a single process, as well as them being informed about how the implementation of recommendations will affect them. Too often expectations for change end with the establishment of a post-disaster inquiry or the

finalisation of its report and recommendations, because the public see this as an answer to the problem itself.

Recommendations of post-disaster inquiries, especially those examined in this thesis neglect to look at the wider context of their implementation. Considerations of the wider context include associated costs, relationships to other policies and priorities, and opportunity costs. These must be thought of during their development, but if responsibility for this rests with different actors this is not guaranteed. To improve links between a post-disaster inquiry's various stages, a level of accountability should exist between those responsible for the design and implementation of its findings and recommendations. This suggests a change from traditional understandings of a royal commission, which involves executive governments blindly implement all its recommendations.

The implementation of recommendations is not the only reason for consideration of why a post-disaster inquiry should be a singular process, the other being evaluation, which this thesis identifies as central to its effective undertaking. Evaluation occurs not just after the implementation of a post-disaster inquiry's recommendations, but should happen throughout its investigation and the formalisation of its findings. It should also occur beyond the implementation of recommendations. Continued evaluation will ensure the effectiveness of lessons and contribute to the mitigation of a future disaster's impacts.

Viewing post-disaster inquiries as a single process presents an issue of determining when this process should end, especially as it is important that evaluation is undertaken. Evaluation is central to judgements of a post-disaster inquiry's effectiveness, especially if it focuses on whether lesson-learning improves disaster preparedness and responses. Reviewing the Stretton Inquiry through future post-disaster inquiries reinforces the lessons learned from it. Continued reference to these highlight the continued utility of the post-disaster inquiry approach, because it provides the perception to the public that lesson-learning has resulted in and has improved disaster preparedness, responses, policies, and procedures.

### *Impact of a federal and unitary system of government on disaster management and responses*

A rationale for the selection of cases in this thesis was the differences in responsibility for disaster management and policy development between Australia's federal system of government and New Zealand's unitary system of government. Beyond the obvious key differences of shared responsibility across multiple layers of government and the lack of consistency between states across Australia due to its federal system of government, this thesis found little through its comparative case study of value to



discussions of the two systems of government, specifically in relation to improving disaster preparedness and responses.

This thesis does note that difficulties in disaster management in Australia have centred on responses to disasters being primarily the role of the state. Despite this, a desire for a nationwide approach to disaster management has seen various state governments around Australia respond to each of the Teague and Holmes inquiries recommendations and findings. These responses and considerations of recommendations recognise a desire to learn from the mistakes made in, or inefficiencies of another government jurisdiction, so as to ensure that similar impacts of a disaster are not experienced within other state-based jurisdictions in Australia.

Beyond this, Australia's high vertical fiscal imbalance, as well as the responsibility for a majority of revenue raising being that of the Commonwealth, led to all of Australia paying a recovery tax to aid recovery to the 2010-11 floods. As such, questions exist through Australia's federal system of government, over who is liable to cover the risks of disaster, especially if some question of liability exists in the aftermath of a disaster. In New Zealand's unitary system of government, the same problem can be seen, but the single layer of government means that any recommendations or policy changes in the post-disaster stage that improve disaster preparedness and responses is achieved across the whole country.

Despite the rationale for a federal structure that "lower-level or junior governments are more responsive to the preferences of citizens than are higher-level or senior ones" (Breton and Scott 1978: 5), there is evidence that points to the failure of Australia's federal system of government in ensuring nationwide learning after a disaster. While growing interaction exists between Australia's state and federal governments in the management of disasters and related policy, it can look further at New Zealand's model of response to disasters that was outlined in Chapter 6. New Zealand's delegation of power through CMGs for the management of disasters provides a chain of command for local areas, where authority exists for a higher authority to take over responsibility should the former layer be unable or ill-equipped to manage the catastrophic event.

Further research and analysis of differences between federal and unitary systems of government are required, specifically between Australia and New Zealand where similarities in their political culture, environment, and experiences of events exist. Specific further research in regard to the post-disaster responses between Australia and New Zealand must look at the response, recovery, and preparedness procedures in each jurisdiction, so as to look at where improvements can be made.

The discussion and analysis of this thesis has found similarities in the use of royal commissions, specifically post-disaster inquiries. While it is unable to make substantive conclusions or

recommendations on this area, it is pertinent to point to similarities in the nature, structure, and use of post-disaster inquiries between the two countries. Choices in the type of commissioners and their backgrounds, the structure and design of their investigations, and in the challenges faced by royal commissions were common across the Teague, Holmes, and Cooper inquiries. As such, this thesis asserts that many of its recommendations are applicable across unitary and federal systems of government that use the Westminster system of inquiries.

### *Following a rational decision-making framework*

Following a rational decision-making framework throughout a post-disaster inquiry is ideal, because it is a multi-step process where choices are made between alternatives (Fischer 2003: 4). The approach favours decision-making through logic, objectivity, and analysis, instead of subjectivity and insight. A rational decision-making framework assumes that choices are made to maximise benefits and minimise costs; that full and perfect information is available and will inform choices; that measurable criteria exist for collecting and assessing data; and that support, time and resources exists to comparatively evaluate each alternative (Fischer 2003: 4). Hogan-Doran (2016) illustrates that a royal commission satisfies the rational decision-making framework by enabling: the provision of impartial, expert, and/or independent analysis and advice; fact gathering; the provision of new, updated research; mapping new policy directions; public consultation processes; development and assessment of policy options; review and evaluation of programs and policies; and the market testing of new policy ideas. Elements of rational decision-making can be seen throughout the Teague, Holmes, and Cooper inquiries and points to where decision-making during their multi-staged processes improves their investigation and outcomes. Rational decision-making models in policymaking and post-disaster inquiries emphasise facts, data, and analysis.

At the establishment of a post-disaster inquiry, the responsible executive government will usually proclaim that the upcoming investigation aims: “to seek evidence”, “have an open review”, to “clarify the facts”, “take a long-term view”, “provide independent assessment”, and undertake “extensive research” (Prasser 2011: 18). The use of this rhetoric accompanied the establishment of the Teague, Holmes, and Cooper inquiries. At the Teague Inquiry’s establishment, Victorian Premier Brumby outlined the intention of its investigation. His comments were similar to those used in the establishment of the Holmes and Cooper inquiries, align with a rational framework for establishing and undertaking an investigation.

When a post-disaster inquiry is undertaken in accordance with a rational decision-making framework, its publicness, and independence assists with the development of recommendations through consultation with the community and stakeholders. The Teague, Holmes, and Cooper inquiries were

public and made easily available to community members and other affected parties, whether in person, or online. Adopting a rational framework ensures that post-disaster inquiries use a multi-step process to make choices between alternative options. It will also ensure that these decisions are made using logic, objectivity, and analysis. Limiting the scope or areas of investigation in a post-disaster inquiry works contrary to rational decision-making.

Rational decision-making frameworks prescribe that a royal commission where publicness and independence assist with improvements to consultation with the community and stakeholders. However, throughout a post-disaster inquiry, a balance between rational, and political motivations must be found. While an approach that favours logic, objectivity, and analysis in decision-making should be favoured, it is impossible to ignore the impact of politics. In the Teague, Holmes, and Cooper inquiries political motivations of executive governments are exhibited in their appointment, especially through a desire for the issue to be dealt with immediately. Despite its independence, the executive government controls an inquiry's establishment through the design of its terms of reference and appointment of its commissioners. Political motivations influence this through a desire to control or shape the agenda, avoid blame, or gain an advantage over opponents.

It is imperative to discuss and understand the impacts that political motivations behind the appointment of a post-disaster royal commission have on the responses of governments. This will assist in understanding where power resides within a royal commission and whether the executive government which appoints it, its commissioners, the community, or media control the investigation, its direction, and outcomes. Understanding who has control for decision-making will assist with determining at what stages rational decision-making can effectively occur.

Despite advocating for post-disaster inquiries to follow a rational framework, because it helps provide an objective analysis, this thesis recognises the limitations of the rational decision-making approach, especially as issues of liability and responsibility are central to reconciliation and healing after a disaster. It is important that politics and political motivations are managed throughout a post-disaster inquiry. The appointment of such institutions will always exist to facilitate an extensive search for answers after a disaster, but also because governments fear the ramifications of inaction. In the search for answers and more effective responses a rational decision-making framework should be adopted.

### *Successful implementation of recommendations: sustaining salience, attention, and a positive arena for change*

When governments establish a post-disaster inquiry, there is often no other option available and it is considered an institution of last resort. Paired with a desire to delay decision-making as central to its

establishment, a key motivation is political, with lesson-learning opportunities that traditionally dictate the use of royal commissions secondary to this. As this latter motivation is secondary to all actors with decision-making power in a post-disaster inquiry, the implementation and evaluation of recommendations is ill-considered. This thesis has noted the need for consideration of recommendations throughout a post-disaster inquiry, with specific attention on how these will be implemented.

Salience and attention towards a post-disaster inquiry decreases as public and media attention towards it declines. As the positive arena for change that exists at an inquiry's establishment fades away, the focus of communities and the media shift from the disaster and its impacts towards the next issue (Downs 1972). Maintaining a positive arena for change throughout the implementation of recommendations is important, as this is the stage of the policy process where its outcomes emerge and the success of this process is vital to a post-disaster inquiry ensuring effective lesson-learning.

The experience of a disaster alters the public's view of weather events and strengthens calls for policy and procedural changes that mitigate their future impacts. Post-disaster inquiries address these calls and use the narrative following a disaster to influence their investigations. Policy has progressed through the implementation of recommendations in the Teague, Holmes, and Cooper inquiries, but little recognition of this exists because the public's attention has moved to the next issue by the post-investigation stage. Ensuring public interest or salience throughout a post-disaster inquiry will improve attention to its post-investigation stage, specifically in the implementation and evaluation of recommendations. It will also help with recognising that lessons have been learned, which encourages positive views of the approach, because it demonstrates its effectiveness.

Downs' (1972) issue-attention cycle illustrates how an issue suddenly leaps into prominence and remains there for a short time, before the attention of the public turns to the next issue. He posits that a five-staged cycle explains how an issue gains momentum for change before a decline in interest pushes it off the agenda (Downs 1972). This situation existed throughout the Teague, Holmes, and Cooper inquiries where attention towards the investigation, formation of recommendations, and their implementation declined from what was experienced at their establishment, especially as time passed since the disaster and its impacts.

The claim from the government or relevant minister at the establishment of a post-disaster royal commission is that all its recommendations will be implemented. This assists with governments presenting the image that this approach is the answer to a disaster's occurrence and will improve preparedness and responses. However, essential to the successful recognition of recommendation implementation is that salience and the positive arena for change exists at the post-investigation stage.

Due to what Pressman and Wildavsky (1984: 87-124) illustrate as the 'Complexity of Joint Actions', a plethora of actors can impact the likelihood of successful implementation. This results from competing aims challenging the focus of actors in policy development. However, in post-disaster inquiries, a single actor has decision-making power. While this changes between its various stages, they can control, limit, and influence the behaviour, and participation of a plethora of actors who seek to involve themselves in post-disaster inquiries. Despite this control, their involvement is essential to sustaining salience in the approach. Commissioners must harness the participation of actors, as this will assist them with sustaining a positive arena for change, especially if these actors are impacted by the recommendations and their implementation. In the Teague, Holmes, and Cooper inquiries, the duration of their investigations resulted in the loss of lesson-learning opportunities, specifically by communities, organisations, and businesses that were not directly impacted by the relevant disaster. For success in the post-investigation stage, it is important that memory and impacts of a disaster are shared throughout the investigation stage, thus ensuring salience is maintained.

Central to sustained salience and a positive arena for change existing at the post-investigation stage, is the adequate consideration of a post-disaster inquiry's recommendations. Without a focus on the implementation and evaluation of recommendations, no recognition of what is being learned from post-disaster inquiries exists. Evaluation of the Teague, Holmes, and Cooper inquiries did little to promote the lessons learned through the implementation of their recommendations. The failure to do so, limits attention to the approach, as well as the potential for lesson-learning to extend beyond those directly impacted. Evaluation of accountability and responsibility, instead of a post-disaster inquiry's recommendations highlights that not enough attention is directed towards lesson-learning. As such, it can be asserted that valuable lessons are being lost.

It is important that the recommendations of a post-disaster inquiry resonate with the public or organisations it impacts, but this should not only occur during their implementation, but also in their design and evaluation, especially if further catastrophic disasters test their effectiveness. Evaluation is central to the process of a post-disaster inquiry and in judging their effectiveness. It should occur throughout its process, but also after a disaster and during future occurrences.

Understanding post-disaster inquiries this way illustrates that it does not neatly follow the policy cycle, because evaluation is central to its success and should be considered and undertaken after various stages, including implementation, issue identification, consultation, and decision-making. This approach, if undertaken publicly, highlights the importance of evaluation to the recognition of and salience in a post-disaster inquiry's outcomes.

## *Sustaining the memory of a disaster: inquiry report as reference for the future*

Some governments avoid the use of a post-disaster inquiry at all costs, because other political institutions allow for greater control of the agenda by executive government. The appointment of a post-disaster inquiry presents a series of risks for government. The impact of these are felt during its post-investigation stage and include:

- Non-delivery of desired outcomes;
- Unexpected outcomes;
- Poor performance;
- Delay and extra cost;
- Interim policy inertia; and
- Loss of control of the policy agenda (Hogan-Doran 2016).

Despite holding responsibility for the implementation of a post-disaster inquiry's recommendations, the government have no control over their formation. Governments cannot plan or consult with those who will be required to be involved in their implementation prior to receiving an inquiry's recommendations. Many of the recommendations of the Teague, Holmes, and Cooper inquiries, especially those that impact community disaster preparedness and responses, requires salience from those who are involved in the prescribed changes to practices, policies, and procedures. It is important that adequate evaluation maintains the attention of not just the government, but communities and all stakeholders in a post-disaster inquiry's recommendations. This is particularly important if the recommendations impact them, or their involvement will assist with identifying their role in the implementation of these. This must be sustained from the occurrence of a disaster through to a post-disaster inquiry's investigation, as well as in the implementation of its recommendations and findings.

The benefits of investigating a disaster event are that it makes governments appear as if they are acting in response to this and represents a period where the energy for change is positive. When this is present, the perfect time to implement reforms or new policies exists, because the communities and other relevant stakeholders' memory of the disaster and its impacts are high.

Reviewing a disaster type rather than event will remove the potential for a post-disaster inquiry's report to sustain a memory of the disaster, as was achieved by the Stretton Inquiry. The Stretton Inquiry created an important historical archive for the management of Victorian and Australian bushfires and remains part of their collective memory. The findings and recommendations of the Stretton Inquiry led to changes that improved disaster responses and preparedness, which were due to the positive arena for change experienced throughout its investigation and in the implementation of its recommendations. Since 1939, evaluation of its recommendations has identified their benefit to disaster preparedness and responses. Ensuring that lessons are learned, and that mistakes are avoided is dependent on a post-

disaster inquiry's report being read and the rationale for its recommendations understood. Without lesson-learning, a future disaster, or similar event will represent a failed opportunity to have learned from the previous experience.

Part of ensuring that a future disaster does not repeat past mistakes, is that a post-disaster inquiry's report provides a detailed yet easily readable memory of the disaster and what has been learned. However, the length and lack of recognised learning from these means that this will not be easily achievable, but it should at least be the aim of any post-disaster inquiry in formulating its report, especially when investigating a catastrophic disaster. A focus on disaster types, rather than an independent inquiry into every disaster, will support a legacy and memory of a post-disaster inquiry being created.

### *Post-disaster inquiry or disaster inquiry: ensuring lesson-learning*

The occurrence of lesson-learning is not an automatic result of establishing a post-disaster inquiry and this chapter has identified challenges associated with achieving this. The Teague, Holmes, and to a lesser extent the Cooper Inquiry investigated disaster events, preparedness for these, and their impacts. The arena for change after a catastrophic disaster is positive, especially as memory of it and its impacts remain high. However, when examining the disaster event itself, rather than the disaster type more broadly, an inquisitive rather than policy focused post-disaster inquiry is adopted.

Differences between inquisitive and policy inquiries are outlined by many, notably Australian public inquiry expert Prasser (2006: 28-29). The difference between the two approaches centres on whether the inquiry seeks "to investigate an event or action or to delve deeply into a complex policy area" (Prasser and Tracey 2014a: viii). The great majority of these are inquisitive, but great potential exists in these being policy focused. Producing effective policy solutions is difficult in areas of high volatility, such as in the aftermath of a disaster.

By reviewing the disaster event, whether the 2009 bushfires, 2010-11 floods, or 2010-11 earthquakes, the post-disaster inquiries in this thesis, included discussions of accountability. Questions regarding post-disaster inquiries must focus on whether the approach remains able to "foster successful public policies: policies that not only do good, but are accepted as such" (Banks 2014: 112). Addressing this concern requires a new approach to post-disaster inquiries, which this thesis suggests should involve a more general investigation. The focus of an inquiry will be on the disaster type, rather than a specific event. This will contribute to its investigation and recommendations focusing on improving disaster responses and preparedness based on the experience of more than just one disaster. It will also assist with removing inquiries or disaster events being seen in isolation, thus it will contribute to a post-

disaster inquiry having its findings and recommendations transferred to other Australian and international jurisdictions.

Apart from this, a focus on disaster types, or a series of events would improve the evaluation of previous inquiries and the learning of lessons that mitigate a disaster. Evaluation has been continually reflected on in this thesis and it is central to determining the success of a post-disaster inquiry, but also in the recognition of achieved learning, which improves salience in future uses of the approach.

### *Punctuated equilibrium: post-disaster inquiries and the development of disaster policy*

Throughout this thesis, the desire for disaster policy development has been shown to increase after a disaster, due to the impacts the event has on communities and stakeholders. The ‘punctuated equilibrium’ hypothesis is developed in relation to the occurrence of a disaster and establishment of a post-disaster inquiry. The hypothesis suggests that the occurrence of a disaster punctures the normal incremental approach to policy development and creates an opportune period for change that improves disaster preparedness and responses. While creating an opportune time and arena for change, it is necessary for the right information gathering instrument to be used. If the appropriate instrument is adopted, policy development will be supported. This thesis has argued that a post-disaster inquiry is the most appropriate tool for learning lessons in response to a disaster, specifically as it will ensure improved disaster preparedness and responses, while mitigating their future occurrence. This thesis asserts that a ‘punctuated equilibrium’ suitably characterises the policy environment in the aftermath of a disaster. This results from a positive arena for change existing after the occurrence of a catastrophic disaster’s occurrence,

This thesis asserts that post-disaster royal commissions are the most appropriate instruments available to governments in response to a catastrophic disaster, because it allows for lesson-learning. This chapter has identified that if these follow a rational decision-making framework, especially through their investigation, if a post-disaster inquiry is considered a single process from its establishment through to the implementation and evaluation of its recommendations, if a positive arena for change exists, and if accountability, or knowledge sharing exists between those responsible for the design and implementation of its recommendation, then a post-disaster inquiry will be an effective institution for evaluating and learning from catastrophic events. Their independence and prestige highlight that governments seek to adequately address and learn from a disaster. However, due to the traditional incremental approach to disaster policy development, a post-disaster inquiry must follow the occurrence of a disaster or significant trigger event, because these creates the positive arena for change that allows for and encourages lesson-learning.





## **CHAPTER 8**

### **CONCLUSION: SUMMARY OF STUDY AND AVENUES FOR FUTURE RESEARCH**

This thesis has focused on post-disaster inquiries, which continue to be the primary instrument used by governments in response to catastrophic events. It reviewed and evaluated the utility of post-disaster inquiries as a response to catastrophic disasters, especially determining whether their aims, the actors involved, and their investigations support lesson-learning that mitigates the impact of future disaster, that improves future preparedness, and responses. This thesis identified that post-disaster inquiries remain appropriate instruments of executive government, but that recent examples have struggled to transfer their findings into shared lessons. The central reason for this has been the failure for the recommendations of inquiries to be implemented or at the very least the failure for this to be recognised, which this thesis recognises as the judgement of their success.

Decision-making throughout the various stages of the Teague, Holmes, and Cooper inquiries was shown to test the independence and historical lesson-learning role of post-disaster inquiries. Challenges to the utility of post-disaster inquiries include their increasing size; duration; frequency; the inclusion of, and intense focus on, issues and questions of blame, accountability, and liability; their increasing political influence throughout their establishment; the impact of a commissioner's previous experience and expertise on their undertaking and findings; the lack of accountability from those who formulate the recommendations on their implementation; and the disconnect between their various stages. However, the main challenge to the utility of post-disaster inquiries is interest and attention towards them throughout their various stages. The continuation of salience and attention towards a post-disaster inquiry throughout its entirety is influential to support towards the implementation of recommendations. As they pressure relevant actors to ensure that this process occurs. This thesis has shown that decision-making throughout inquiries must focus on how salience and attention can be maintained, explicitly focusing on how recommendations will be implemented.

The failure for decision-making to adequately consider the ramification of recommendations and their impacts, has in this thesis been shown to influence whether these are implemented and if lessons are being learned that mitigate future disasters and their impacts. While recent post-disaster inquiries remain influential in the identification of lessons, reforms to how these are undertaken must ensure that they are an effective lesson-learning tool for improving disaster preparedness and responses. It needs also ensure that decision-making throughout their establishment, investigation, and post-investigation

stages reflects this aim, while also maintaining salience to ensure attention towards the implementation of their recommendations.

Through an examination of the literature on disaster responses, royal commissions, and post-disaster inquiries (Chapter 2), I acknowledged concerns about the use of the latter in modern response to disasters, which question their utility in ensuring improvements to preparedness and responses. The continued utility of post-disaster inquiries or at least the use of them by governments to respond and learn from disasters is questioned by scholars who argue that more appropriate lesson-learning post-disaster approaches should be identified. This led to an examination of literature that considers how lesson-learning can result from disaster responses, through a search for alternative approaches. These views were shown to fail to fully understand the utility of post-disaster inquiries. This thesis identified where throughout decision-making in post-disaster inquiries increased salience and attention can improve their investigations, gain general acceptance of their use by government, and achieve improved disaster preparedness and responses that mitigate its future impacts through the implementation of recommendations.

Through its review of the post-disaster inquiry approach, this thesis asserts that ideal examples would follow a rational decision-making framework, but that the influence of politics is inevitable. Decision-making throughout a post-disaster inquiry must reflect this, while effectively undertaking its investigation and ensuring its outcomes improve disaster preparedness and responses.

Prasser (2006: 39, 57-58) asserts that post-disaster inquiries should not just be viewed through a rational framework, because this only provides a limited perspective, especially as there is a plethora of actors in positions of authority influencing the direction of disaster policy. March and Olsen (1989: 48) summarise what is regarded as a more realistic appraisal of the policy process:

[i]nformation is gathered, policy alternatives are defined, and cost-benefit analyses are pursued, but they seem more intended to reassure observers of the appropriateness of actions being taken than the influence of the actions. Potential participants seem to care as much for the right to participate as for the fact of participation; participants recall features? of the process more easily [...] than they do its outcomes; heated argument leads to decision without concern about its implementation; information relevant to a decision is requested but not considered; authority is demanded but not exercised.

In a post-disaster inquiry, political motivations influence decision-making, thus impacting the ability for a rational model to fully frame its investigation. This thesis developed a view about how disaster policy should be constructed, specifically through a post-disaster inquiry. It asserts that this development should be about “processes, as well as outcomes, and about commitment as well as goals” (Colebatch 1998: 53). The process of a post-disaster inquiry is only one part of disaster policy

development, which beyond a post-disaster inquiry or the occurrence of disasters occurs incrementally. However, due to the ‘publicness’ and independence of post-disaster inquiries, they possess a special status not enjoyed by other institutions of government, especially as they promote participation, provide a forum for debate and keep issues on the agenda. The occurrence of a disaster and post-disaster inquiry creates an arena for change that punctures the incremental approach to policy development, thus representing the ‘punctuated equilibrium’ theory in action.

Beyond this, the failure to achieve recognisable lesson-learning from recent post-disaster inquiries is why I chose to assess their continued utility as a governmental tool for responding to and learning from disasters through a comparative case study method (Chapter 3). I selected three cases, which were individual post-disaster inquiries that allowed for examination of differences between jurisdictions in the use of inquiries and assessment of their impacts on lesson-learning. The key difference between the Teague, Holmes, and Cooper inquiries was in the disaster type investigated and the responsible government authority for their appointment, especially with the latter which was established and undertaken by the New Zealand Government. These differences are detailed through examinations of each post-disaster inquiry in the case study chapters (Chapters 4, 5, and 6). This thesis analysed the disaster, and establishment, investigation, and post-investigation stage of each case, including the key actors involved, decisions made, and their impacts on its conclusions and recommendations. The success of a post-disaster inquiry, like any other inquiry was shown to be dependent on the implementation of its recommendations, thereby demonstrating to those affected that lessons have been learned. This thesis highlights how this is dependent on salience being focused on a post-disaster inquiry’s recommendations during its investigation, but also during its post-investigation stage, where their implementation occurs.

Finally, Chapter 7 of this thesis compared and contrasted the insights generated by the examination of the three post-disaster inquiry cases, so as to determine their utility in lesson-learning, and whether they fulfil the aims of inquiries. These aims to are fulfilled through the implementation of their recommendations. It recognised a disconnect between who holds responsibility throughout a post-disaster inquiry’s three stages. This thesis examined how this disconnect impacts the successful and recognised implementation of its recommendations. Recent overuse of royal commissions, specifically for post-disasters reviews has hindered the salience of their investigations, especially beyond their initial stage where attention towards the disaster creates an opportunity for policy change. This thesis found that a post-disaster inquiry’s potential to achieve lasting lesson-learning opportunities is improved through it adhering components of a rational decision-making framework. Various alternative methods or directions in decision-making throughout the Teague, Holmes, and Cooper inquiries impacted the implementation of recommendations, which affected whether improvements to future disaster preparedness and responses resulted. This thesis recognised the need for post-disaster inquiries to have

identifiable outcomes that achieve visible lessons through the implementation of their recommendations.

The recommendations outlined in the following section highlight areas, where if adopted will improve the operation and results of post-disaster inquiries and possibly royal commissions more widely. These recommendations address key areas where decisions in the adoption and undertaking of post-disaster inquiries challenge their use. A rationale and framework for how post-disaster inquiries can effectively be undertaken to ensure the implementation of their recommendations is provided, which this thesis argues is the most appropriate way to measure of their success. Despite this aim, the recommendations of this thesis are developed while acknowledging that politics, political involvement, and political motivations will continue to have an impact on post-disaster inquiries, specifically salience, attention, and decision-making throughout their establishment, investigation, and post-investigation stages.

## **Recommendations for more effective post-disaster inquiries**

This thesis has identified the continued usefulness of post-disaster inquiries in identifying lesson-learning opportunities that encourage improvements in disaster preparedness and responses, especially if their associated prestige is maintained and if salience and attention is sustained from its establishment through to its post-investigation stage. Concerns over the lack of lesson-learning in post-disaster inquiries or in them not being useful and appropriate for responding to disasters, illustrate a requirement to look towards an alternative approach. However, the investigation of this thesis, which reviewed and evaluated post-disaster inquiries and where improvements can be made to ensure their effectiveness is also necessary, because it continues to be the preferred approach of governments in response to disaster.

In this section, I present the findings of this thesis in the form of recommendations. These recommendations are developed from identified shortcomings and strengths of post-disaster inquiries, as demonstrated through its analysis of the Teague, Holmes, and Cooper inquiries. A short rationale supports each recommendation. The included rationale focuses on how the recommendation will assist decision-making that focuses on the sustainment of salience and attention throughout post-disaster inquiries. Improvements to these areas will assist with the implementation of a post-disaster inquiry's recommendations, which will support its achievement of lesson-learning in the post-disaster phase, specifically if it improves disaster preparedness and responses, while also mitigating the future impacts of a disaster.

Fundamentally, this thesis affirms that the only way of evaluating if lessons have been learned from a post-disaster inquiry is the experience of another disaster that tests the policies and disaster management system. However, the experience of a similar disaster in the immediate or medium aftermath of a post-

disaster inquiry should be qualified by the lack of opportunity to fully implement recommendations. The following recommendations are developed with the understanding that the above statement is central to judging the success of any post-disaster inquiry.

While all the recommendations are based on the comparative analysis undertaken throughout this thesis, further engagement with primary sources, specifically informant interviews with key stakeholders and those who made or were affected by decision-making would have aided to its analysis. This would contribute to many of the recommendations being more robust and without these many of the recommendations require a qualification, because beyond the inquiry reports this thesis bases its findings on secondary sources. The limitations of this thesis and its research design were discussed in its methods chapter (Chapter 3).

*Recommendation 1: Wherever possible post-disaster inquiries should follow a rational decision-making framework throughout their establishment, investigation, and post-investigation stages, but need to allow for political motivations and idealistic requirements to be fulfilled.*

This thesis identified how post-disaster inquiries that follow a rational decision-making framework, through a structured multi-staged approach to its investigation, with a focus on outcomes have greater lesson-learning potential. While this is observed as an ideal guide as to undertake post-disaster inquiries that improve disaster preparedness and responses through lesson-learning, the role of politics, and political motivations challenge this. The role of political motivations must be facilitated in a post-disaster inquiry to meet community and government needs. The involvement of these are inevitable in post-disaster inquiries that follow a disaster.

Largely, due to a desire for rational decision-making frameworks to be followed through decision-making in the establishment, investigation, and post-investigation stages of post-disaster inquiries, this recommendation is idealistic. This thesis notes that politics and political motivations will always have a presence in post-disaster inquiries, especially if executive government remain responsible for the appointment of commissioners and for designing their terms of reference.

The recommendation is included to act as an aspirational target for decision makers throughout the establishment, investigation, and post-investigation stages of post-disaster inquiries. A rational decision-making framework should at the very least frame the investigation stage of post-disaster inquiries. It was during this stage, where much of the Teague, Holmes, and Cooper inquiries investigations followed a rational decision-making framework, because they undertook extensive consultation to gather information. Their consultation assisted with the identification of recommendations that if implemented and understood by those affected aimed to improve disaster preparedness and responses. It highlights that more attention to rational frameworks for decision-

making should be directed towards the post-investigation stage and how the implementation of recommendations will effectively occur.

Throughout this thesis, reflections on the importance of a post-disaster inquiry's investigation identifying lessons aimed at mitigating future disaster impacts through improvements to disaster preparedness and responses were stressed to rely on rational decision-making in some way framing this stage. When a multi-staged process focused on gathering objective information from a plethora of relevant actors is utilised, a post-disaster inquiry's commissioners have the potential to make informed recommendations about the future of disaster management. These are key features of a rational decision-making framework and have in part, been exhibited throughout each of the Teague, Holmes, and Cooper inquiries.

*Recommendation 2: Post-disaster inquiries must throughout their establishment, investigation, and post-investigation stages, be viewed as a single process, where responsibility for actions and decisions is shared, considered, and recognised.*

Responsibility throughout the Teague, Holmes, and Cooper inquiries differs between the various stages, with no level of accountability on the commissioners who design their recommendations on how their implementation occurs. This is despite consultation throughout the investigation of post-disaster inquiries including the various stakeholders who the implementation of their recommendations involves. In the Teague, Holmes, and Cooper inquiries, issues can be identified with the implementation of their recommendations, because responsibility fell to respective governments and stakeholders without assistance or a guide for how this was to occur. Part of this is that little attention or salience exists in the post-investigation stage, because the reporting of a post-disaster inquiry is viewed as the answer to the event or problem investigated.

I recommend that post-disaster inquiries be a singular process, where responsibility is shared between those responsible for the design and implementation of their recommendations. To achieve this commissioners and decision makers in the design and formation of recommendations must consider how they will be implemented in the post-investigation stage, specifically attention should focus on informing communities and stakeholders on how it will impact them.

Viewing a post-disaster inquiry as a single process from its establishment through to its post-investigation stage faces difficulties, due to responsibility for individual stages resting with differing actors. Decision makers throughout post-disaster inquiries need to share responsibility and consider the impacts of their choices. Key to ensuring continuity throughout an entire post-disaster inquiry is that decision makers share common aims and goals.

A definitive understanding of who is responsible for the consideration of recommendations and how they will be implemented is required throughout an inquiry. This is relevant to the investigation stage, where an understanding of responsibility for the implementation of recommendations will assist in ensuring this occurs and in the learning of lessons. This will assist commissioners in developing accountability beyond their work during an inquiry's investigation and in the formation of its report and recommendations. It will ensure that commissioners consider how the implementation of recommendations will proceed. Improvements to post-disaster inquiries, salience in them, and in their ability to inform lesson-learning will occur through commissioners extensively and directly consulting with actors whom the implementation of recommendations will impact. This will assist with them to understand the role that they must undertake in the post-investigation stage and contributes to them filling the gap of knowledge that exists with people responsible for this. Despite a post-disaster inquiry's independence from executive government, they should also be consulted through the investigation stage to ensure their awareness of how implementation will occur.

*Recommendation 3: Specific terms of reference should be developed to encourage a post-disaster inquiry to deliver manageable recommendations that improve disaster preparedness and responses, while ensuring that its scope is wide enough that no issue of significance is not evaluated.*

Throughout this thesis, the impact, and scope of the Teague, Holmes, Cooper inquiries has been shown to be derived from their terms of reference. It is important for the success of post-disaster inquiries in evaluating disaster preparedness and responses that their terms of reference allow for a focused investigation aiming to identify exactly where improvements can be made to specific areas. These must also be broad enough to ensure that any important issues that emerge during their investigation are included.

The terms of reference must ensure that the implementation of recommendations is considered throughout a post-disaster inquiry's investigation, because this is important to perceptions of its success. It is important that salience and attention is maintained throughout its investigation stage and is focused towards how its recommendations will be implemented and visually contribute to improving disaster preparedness and responses. This recommendation centres on ensuring a prompt investigation and sustained salience. This thesis argues that this will occur through a structured and focused terms of reference directed towards addressing the nature of a disaster and by evaluating the results of previous inquiries.

Differences in the Teague, Holmes, and Cooper inquiries terms of reference, have been shown to impact their scope and investigation. Extending a post-disaster inquiry's terms of reference to include all issues associated with the disaster is important and issues of significance cannot be excluded, because as



shown throughout its analysis they will distract from lessons being learned from its findings. Also, a post-disaster inquiry's terms of reference must be wide enough, so that issues raised throughout its investigation or through immediate disaster responses can be included. The absence of these discussions can distract from a post-disaster inquiry's achievements, or cause delays through the need to change its terms of reference.

*Recommendation 4: Carefully and thoughtfully select a post-disaster inquiry's chairperson, deputy-commissioners, and staff to ensure that bias, which influences salience or the independence of the investigation, findings, and recommendations is avoided. Engage those selected as staff for the post-disaster inquiry with knowledge of disaster policy and management techniques.*

This thesis recognises the importance of considered selections in the appointment of a post-disaster inquiry's chairperson, deputy-commissioners, and staff. It recommends that sufficient consideration be taken to include actors with relevant knowledge and expertise from diverse backgrounds. This will ensure that the inquiry has a range of specific specialised expertise to draw upon. If the chosen chairperson, deputy-commissioners, and staff lack an expertise or knowledge of disaster policy and management techniques, these should be either taught or gathered to ensure that this is available to the post-disaster inquiry and its investigation. This can be achieved through the engagement of experts or academics with knowledge of disaster policy and management, who can serve as staff of the commission or as witnesses in the early stage of a post-disaster inquiry to support the collection of background information used to support its investigation and in the development of its recommendation and conclusions.

Considering issues arising from the Holmes Inquiry and the perception of bias associated with deputy-commissioner Cummins, this thesis recommends that all commissioners and staff of a post-disaster inquiry agree in their appointment to not accept future employment that might jeopardise the inquiry or cause a potential conflict of interest.

The ideal combination of a post-disaster inquiry's commissioners is a chairperson and two deputy-commissioners, as was adopted in each of the Teague, Holmes, and Cooper inquiries. This thesis notes that commissioners should have differing, but relevant expertise to ensure inquiries are supplied with sufficient background information. Beyond expertise of the disaster type itself, a commissioner with knowledge about how to undertake an inquiry would be helpful. However, in a post-disaster inquiry specific expertise in similar types of inquiries should be avoided, due to the potential for bias from commissioners who may push findings of their previous inquiry, even if evidence does not support this. Despite no evidence suggesting inappropriate behaviour, this thesis contends that in the Teague Inquiry, McLeod was ill-suited to be a deputy-commissioner. Post-disaster inquiries would also benefit from

having diverse perspectives involved, so that their findings, and recommendations reflect the information in front of them.

This thesis recommends that the appointment of a post-disaster inquiry's commissioners avoid potential for bias in favour of a commissioner's previous recommendations.

*Recommendation 5: Discussions of liability, responsibility, and accountability have a necessary place in response to disasters, but these should be limited and not distract from a post-disaster inquiry's lesson-learning aims.*

The analysis of this thesis observed both positives and negatives associated with issues of blame and responsibility being the focus of a post-disaster inquiry's investigation. In response to the 2009 bushfires, reconciliation throughout the Teague Inquiry was important for assisting with community healing, but it is not always appropriate, especially when seeking objective answers on how preparedness and responses can be improved.

Despite this, I note the need for forums similar to the community consultations utilised in the Teague and Holmes inquiries. Providing a forum for affected community members to be heard and voice concerns assists with healing, but should remain separate from inquiries seeking to identify lessons to mitigate future disasters and improve preparedness and responses. Maintaining separation between the community consultations and inquiry investigations will limit potential distractions, but must occur consistently across inquiries. This will ensure that public behaviour towards consultation and awareness of this are appropriate. The method could also be utilised to regularly update the community on the inquiry's progress and consult about how implementation will affect them. This will assist in maintaining salience in a post-disaster inquiry right through to the implementation of its recommendation, because plans as well as the progress of the inquiry can be communicated to the community.

*Recommendation 6: Undertake extensive consultation throughout the investigation stage, particularly with actors who hold relevant expertise or firsthand knowledge and experiences of the disaster, its impacts, and how improvements to disaster preparedness and responses can be made.*

The value of wide-ranging, extensive, and inclusive consultation was illustrated through the analysis of this thesis. The terms of reference adopted in both the Teague and Holmes inquiries represent a similar model to this, while the Cooper Inquiry's specific focus on building failure narrowed its consultation to those relevant to its investigation.

In each of the Teague, Holmes, and Cooper inquiries attention towards consultation, whether through submissions, or public hearings was a focus of their investigation stages. In each case, much of the

decision-making about processes at this stage follows a prescribed rational framework, which includes the adoption of a multi-staged process where choices are made between alternatives based on objective information.

Undertaking sustained and wide-ranging consultation supports the continued salience of an event and related inquiry. This is important for a post-disaster inquiry's success and illustrates the benefits to it of extensive consultation with interested, but relevant actors. Consultation is also how a post-disaster inquiry gains the information used to develop its findings and recommendations and it should seek to gather as much information at this stage as possible. It is important that this does not increase the length of an inquiry, instead demonstrative collections of information from witnesses should be sought and utilised. The rationale for this, as well as how it impacts interested parties should supplement reporting of a post-disaster inquiry's progress.

*Recommendation 7: Achieve continued salience and attention throughout a post-disaster inquiry, so that a positive arena for change exists where attention is directed towards the implementation of recommendations and conclusions throughout its earlier stages.*

Salience and attention is pivotal to the implementation of a post-disaster inquiry's recommendations and impacts the success of the approach in achieving lesson-learning that improves disaster preparedness and responses. Salience in a disaster and attention towards a post-disaster inquiry, is imperative to identifying where improvements can be made to preparedness and responses. Salience and attention is high directly after a disaster's occurrence and this facilitates the establishment of post-disaster inquiries. However, as time progresses and post-disaster inquiries advance their investigations, salience in addressing the impacts of the disaster diminish, especially among those who were only indirectly affected. The further time progresses after a disaster, the more difficult it is for salience and attention to be sustained. The Teague, Holmes, and Cooper inquiries illustrate that without the occurrence of a significant event, they faced difficulty in achieving interest in the implementation of a post-inquiry's recommendations.

This thesis recommends that sustaining salience and attention in a post-disaster inquiry's establishment, investigation, and post-investigation stages must dictate its decision-making. Part of this should focus on ensuring salience and attention is directed towards the implementation of recommendations, especially by those who they will affect, and specifically if they aim to improve disaster preparedness and responses.

Complicating the achievement of this is government motivations and aims in undertaking post-disaster inquiries, which often differ to those of a rational decision-making framework. An aim to control the agenda or for governments to appear as if they are acting, is why many governments appoint post-

disaster inquiries. As such their end results, namely the implementation of recommendations that improve disaster preparedness and responses are not as relevant, because this is not the basis for governments judgements of a post-disaster inquiry's success. It is inevitable that a disaster will be a problem for governments, because the alternative to the establishment of a post-disaster inquiry or some form of decisive, but recognisable action, is the negative consequences associated with inaction. Increased or continued salience in a post-disaster inquiry is achieved through sustained attention and engagement throughout its entire process, which will be more likely through succinct investigations, as well as constant reflection and updates about its progress. The duration of the Teague, Holmes, and Cooper inquiries extended beyond twelve months, and due to the failure for continued updates of their progress, salience, and attention was lost.

Salience in the post-disaster approach more broadly will be achieved by the success of previous examples being exhibited and recognised by the public. Evaluation of past post-disaster inquiries should outline the previous successes of similar instruments in improving disaster preparedness and responses. Support and interest in post-disaster inquiries will grow with the identification of proven successes, because communities, and stakeholders will see it as achieving something of benefit, rather than serving political motivations. The recognition of previous success is dependent on the implementation of previous post-disaster inquiries recommendations being evaluated by the experience of a future disaster. Whether these recommendations improved disaster preparedness and responses should be the focus of this evaluation and could form the basis of future post-disaster inquiries. Focusing on this will not just sustain attention to post-disaster inquiries, but will highlight where stakeholders can include them in their processes.

Reviewing current policies and procedures occurred in each of the Teague, Holmes, and Cooper inquiries. It was the Teague Inquiry's review of the 'Stay or go' policy in its interim report, that exhibited what this recommendation intends. I assert that this should be taken further to ensure that attention is directed towards not just to the performance of the previous lesson, but if, how, and where improvements to it can be made. This recommendation will only succeed if post-disaster inquiries are policy focused. Instead of uncovering corruption, post-disaster inquiries should focus on delving deep into the complex area of disaster policy.

*Recommendation 8: Direct further attention towards the post-investigation stage of a post-disaster inquiry, with a specific focus on how knowledge is transferred from its investigation and report to those responsible for implementation.*

The post-investigation stage is influential to a post-disaster inquiry, because it is where the input throughout its investigation is turned into outcomes and it is where the basis for judgements of its

success emerges. A lack of attention directed towards this stage and a limited desire from those responsible to see change limits the success of post-disaster inquiries. However, through improved salience in their investigations and reporting, especially if the focus is on how the post-investigation stage of the inquiry will occur, then the implementation of recommendations is more likely to be effective in mitigating future disaster impacts.

This thesis recognises that the central problem with post-disaster inquiries is that differing actors have responsibility for the design and implementation of recommendations. Ensuring that responsibility or at least a plan for how the implementation will occur exists, assists with breaking down this gap in accountability. Their independence should not be questioned if governments are consulted in the investigation stage on the practicability of implementing planned recommendations. Plans for implementation could also be documented throughout a post-disaster inquiry's report, ensuring that those involved are aware of their requirements. In the Teague Inquiry, the establishment of the BRCIM was to focus on the implementation of its recommendations and provide evaluations. Despite establishing the BRCIM, the Teague Inquiry did not focus on how the implementation of its recommendations would occur.

Part of the current problem is that those who the recommendations will impact are not aware of what is required of them, ensuring that all actors are adequately prepared for their implementation will improve the process. This thesis stresses the adoption of a 'bottom-up' approach to disaster policy development, especially after a post-disaster inquiry. Such an approach, that was absent from each of the Teague, Holmes, and Cooper inquiries is possible because they each consult widely with those affected by the disaster. It is important that all stakeholders have understandings of their individual requirements in the implementation of recommendations.

*Recommendation 9: Ensure salience in a post-disaster inquiry and its findings by reducing fatigue associated with its overuse, saving it for the most catastrophic of disasters, or where limited recent use has been experienced.*

This thesis reviewed three recent post-disaster inquiries that were all established within two years of each other. In Australia, this followed a plethora of similar inquiries since 2000. Partially this is in response to the occurrence of catastrophic disasters that have become more frequent, but their overuse is causing fatigue, especially as post-disaster inquiries require time for their findings and recommendations to be implemented and evaluated. This leaves little time to understand a post-disaster inquiry's effectiveness and success, which will also affect the ability for judgements to be made about it.

The Teague, Holmes, and Cooper inquiries did not focus on previous similar disaster. While focusing extensively on the recent disaster experienced, there appears substantial benefits in reviewing and evaluating patterns of disaster policy and procedures more widely. As such, reflections on policies and procedures more widely can be made, rather than the disaster itself.

This thesis recommends that post-disaster inquiries be utilised less frequently and saved for when limited examples of the approach have recently occurred or for the most catastrophic of disasters. This should include a change in their focus to investigate disasters more widely, with attention directed towards evaluating previous post-disaster inquiries and their contributions. This will allow for judgements to be made and for disaster preparedness and responses to be built upon. This knowledge should also extend beyond jurisdictional boundaries just as a disaster would. As such, a national approach to undertaking disaster reviews is deemed most appropriate. This will require adequate cooperation and coordination between Australia's Commonwealth and State Governments.

Improved salience in a post-disaster inquiry will result from its reduced use, but should be supplemented by minor reviews of disasters in the area they occur. The approach will also be improved if the focus extends beyond the event it follows and examines disaster more widely. The reduced use of the approach is a risk if adopted in isolation, but will improve its prestige, especially if they focus on the disaster type rather than a disaster event.

*Recommendation 10: Maintain a memory of the disaster and its impacts that are the focus of a post-disaster inquiry's reports and recommendations of a post-disaster inquiry, thus ensuring it acts as a reference point for future reflection.*

Memory of the 1939 Black Friday bushfires is maintained through the Stretton Inquiry's detailed report. In the nearly 80 years since this report, its identification of lessons emerges from its recommendations assisting with the lasting memory of the bushfires. While it is impossible for reports to instantly achieve this, they should all be produced with this aim.

Part of the prestige associated with the Stretton Inquiry's report is its concise size and that it is easily readable. However, the increasing size of reports, seen in the Teague, Holmes, and Cooper inquiries means these, their recommendations, and their key findings are less likely to be extensively read and understood by those they affect. As such, the summaries of these have become important for sharing recommendations, findings, and key messages, but have not presented the information in full.

Ensuring the right reporting method is adopted, is central to the longevity and success of a post-disaster inquiry. This thesis recommends that shorter area focused volumes is the best way of publishing an inquiry's findings (as was adopted by the Cooper Inquiry), but that concise summaries are more likely

to be read. Any reporting of an inquiry must provide a detailed account of what is being investigated, which includes providing rationale to support the presence of recommendations and information to assist with their implementation.

*Recommendation 11: View the post-disaster inquiry approach as part of wider development of disaster policy, specifically if its role is a source for the inclusion of relevant knowledge and expertise.*

Disaster policy was shown to occur incrementally, with the occurrence of a disaster and post-disaster inquiry punctuating traditional periods of inactivity where no arena for change exists. A disaster's occurrence and a post-disaster inquiry presents an opportunity for this process to ensure large scale changes to related policies and procedures. To fully understand the process, it is important to view post-disaster inquiries as an instrument of executive government in the development of policy, which independently and objectively collect relevant information and knowledge about how to improve disaster management. This will only occur when their place and role in the policy process is understood and appreciated.

The research conducted in this thesis supports the establishment of post-disaster inquiries, especially after catastrophic disasters, because it represents a period where intense policy development is sought after. It thus affirms the 'punctuated equilibrium' hypothesis. This recommendation is included to ensure that understandings of a post-disaster inquiry's part in the process of policy development is recognised. Its inclusion also highlights how and when it is an appropriate tool for objectively gathering information that recommends improvement to disaster policies and procedures. The role of post-disaster inquiries in disaster policy development is significant, even if it is not visible. As such, it has a significant role in Australia's political system and public life in response to disasters.

## **Scholarly contribution of this thesis**

This thesis has built upon the scholarly contributions of many scholars who have focused on royal commissions and public inquiries, most notably that of Weller, Prasser, and Tracey. Their contributions on various forms of inquiry were used by this thesis to produce a greater understanding of post-disaster inquiries. This thesis discussed how post-disaster inquiries, and royal commissions more generally, are reliant on community involvement and a strong focus on the gathering of knowledge so that decisions can be made. The punctuated equilibrium theory was used in conjunction with disasters being a focusing event to highlight the potential for post-disaster inquiries to offer insights and recommendations to mitigate the future impacts of a disaster. The limitations of this thesis, along with the overt political nature of royal commissions challenges its findings, but it is able to stress the need for sustained salience, so that its recommendations and findings are shared through their implementation.

This thesis stressed the importance of salience across the three outlined stages of a post-disaster inquiry, notably its establishment, investigation, and post-investigation stages. Beyond the modest contribution this thesis makes in advancing understandings of lesson-learning, implementation, or to other outcomes of public inquiries and royal commissions, it is able to develop knowledge that furthers developments on accountability and knowledge transfer in the post-investigation stage, especially in the implementation of recommendations. This thesis noted that maintaining salience throughout the early stages of a post-disaster inquiry, impacts the consideration and successful implementation of its recommendations, and as such

The primary research question of this thesis asked to what degree do post-disaster inquiries, as a method for evaluating and reviewing a disaster, ensure lesson-learning through the implementation of recommendations was examined through its comparative case study analysis. Its findings supported the continued use of post-disaster inquiries as a method for evaluating a disaster, so as to ensure lesson-learning through the implementation of recommendations. Despite recognised limitations in its methods, this thesis concludes that key to lesson-learning through the implementation of a post-disaster inquiry's recommendations is viewing it as a single consistent process from its establishment, through to the implementation and evaluation of its recommendations. Key to this achievement is knowledge transfer and shared accountability across its establishment, investigation, and post-investigation stages. However, the outlined nature of public inquiries, specifically royal commissions as independent of executive government, despite them being responsible for a post-disaster inquiry's establishment and the implementation of its recommendations, makes ensuring accountability difficult. This thesis found that essential to ensuring the transfer of knowledge and lesson-learning is salience in a post-disaster inquiry's investigation and recommendations, which due to a catastrophic disaster acting as a focusing event is high after the event's occurrence. However, as the post-disaster inquiry proceeds and immediate memory of the disaster and its impacts decline, attention towards the Teague, Holmes, and Cooper inquiries faded, especially in areas beyond finding fault for the event's occurrence.

Maintaining salience and a continuity in knowledge are important for the successful implementation of a post-disaster inquiry's recommendations. This is dependent on knowledge transfer and consistent accountability. Without this and a consistent single process view of a post-disaster inquiry, lesson-learning through the implementation of recommendations is made more difficult, but still possible. Throughout this thesis, lesson-learning through the implementation of recommendations is asserted to be the most effective and appropriate mechanism for ensuring that the impacts of future disasters are prevented or at the very least mitigated in future. Part of the rationale for this is that the only judge of a post-disaster inquiry is how any policies and disaster management systems stand against the experience of a similar future disaster. Failure to mitigate the disaster or the experience of similar impacts suggests a failure to learn, especially if these were referenced in the previous post-disaster inquiry's report.



A main contribution of this thesis was to introduce further background to why post-disaster inquiries are appointed, the benefits they offer to lesson-learning after disasters, and a method for improved lesson identification that enhances opportunities for recommendation implementation that mitigates the impacts of future disasters. While no exact method exists to achieve this, the discussions and recommendations of this thesis illustrate a method for engaging commissioners, staff, affected communities, and members of the wider community, increasing salience, and improvements in accountability to ensure effective implementation and evaluation of recommendations. All of this was illustrated to be dependent on increased and shared knowledge of disaster policy and management systems from all participants throughout the entire process of post-disaster inquiries.

## **Avenues for future research**

This thesis recognises several key themes for additional research. These are associated with the need for further research being directed towards disaster responses and the use of post-disaster responses, specifically relating to the recommendations outlined in this thesis.

An emerging deep and abiding interest in public inquiries by political scientists should supplement increasing attention to post-disaster responses. Greater attention from researchers towards post-disaster inquiries and whether lesson-learning occurs through these processes is required. Further attention towards how the approach can be more effectively undertaken is required. This must focus on maintaining salience and attention, as well as on the implementation of a post-disaster inquiry's recommendations.

Second, further attention towards disaster responses and decision-making throughout this by all relevant decision makers is required. Such studies must focus on further understanding and acceptance of alternative approaches and their impacts to disaster preparedness and responses. Understanding the benefits of these should highlight their appropriate use in different circumstances. This should include learning from experiences approaches in international jurisdictions that share experiences of catastrophic disaster and their impacts with those adopted in Australia. Further research should not aim to replace post-disaster inquiries, instead such research must focus on how approaches of other jurisdictions can contribute to enhancing this method and its lesson-learning potential. Identifying alternative approaches to post-disaster inquiries or limiting their use minimises fatigue from their overuse. This thesis asserts that this will contribute to sustaining salience in the approach.

Lastly, this thesis supports the suggestion made by Inwood and Johns (2016) that focus should shift to the roles of royal commissions or other similar institutions beyond Australia and New Zealand. Reviewing the political and policy purposes of the investigation or review tools used in other

parliamentary systems, will point to where improvements can be made to the effectiveness and efficiencies of local approaches.

This thesis has recognised the importance of ensuring a post-disaster inquiry's recommendations are implemented. Further research should evaluate decision-making during future uses of the approach and review the presence of salience and attention, especially as this is central to lesson-learning and the implementation of recommendations. This influences a post-disaster inquiry, notably because the implementation of its recommendations measures its success. It is important that the various actors involved in this process understand their roles and how they will be affected. This will only occur through a greater understanding of the important role that post-disaster inquiries perform, an acceptance of them as a single process from their establishment to post-investigation stages, and wherever possible, a rational decision-making framework is followed.

# APPENDIX A

## ELIZABETH THE SECOND BY THE GRACE OF GOD QUEEN OF AUSTRALIA AND HER OTHER REALMS AND TERRITORIES, QUEEN, HEAD OF THE COMMONWEALTH

To The Honourable Bernard George Teague AO

Ronald Neville McLeod AM

Susan Mary Pascoe AM

GREETINGS:

WHEREAS:

- A. On Saturday 7 February 2009, the State of Victoria experienced the most devastating bushfires in its history, resulting in a catastrophic loss of life and public and private property.
- B. The State of Victoria is recognised as a region subject to a very high fire risk and has previously experienced extensive bushfires, most notably in, 1939, 1944, 1969, 1977, 1983, 2003, 2005 and 2006.
- C. A range of inquiries conducted after those bushfires has led to the development of a coordinated State-wide approach to planning for, and responding to, bushfires and an extensive network of career and volunteer emergency services personnel.
- D. The weather conditions on 7 February were unprecedented in terms of high temperatures, low humidity and wind speeds, following years of drought. The conditions on that day also followed a heatwave and bushfires, including in Gippsland, in late January 2009.
- E. Over 4,000 fire service volunteers and career staff immediately responded to combat more than 300 fires across Victoria on 7 February and over 10,000 personnel were subsequently involved in the largest coordinated emergency response and community recovery operation in the State's history.
- F. The State acknowledges and commends the significant dedication and efforts of staff and volunteers in responding to this emergency in extremely difficult conditions.

- G. Notwithstanding the scale of these efforts, there was an unprecedented loss of life, extreme property damage, and major community trauma and displacement.
- H. The Governor of the State of Victoria, in the Commonwealth of Australia, by and with the advice of the Executive Council, has therefore deemed it to be expedient that a Commission should issue to you in the terms set out below.
1. It is anticipated that in conducting Our Commission you will take into account the important role and functions of the Coroner, Victoria Police, the Director of Public Prosecutions and the Victorian Bushfire Reconstruction and Recovery Authority, and that you will consult with each of those persons or bodies to the extent that you consider appropriate in order to avoid the inquiries of Our Commission from interfering unnecessarily with the functions of those persons or bodies.

NOW THEREFORE the Governor of the State of Victoria, in the Commonwealth of Australia, by and with the advice of the Executive Council and acting pursuant to section 88B of the Constitution Act 1975, appoints and constitutes you

The Honourable Bernard George Teague AO

Ronald Neville McLeod AM Susan Mary  
Pascoe AM

to be Our Commissioners.

AND HEREBY APPOINTS The Honourable Bernard George Teague AO to be  
Chairperson of the Royal Commission.

FOR THE PURPOSE of inquiring into and reporting on the following matters:

1. The causes and circumstances of the bushfires which burned in various parts of Victoria in late January and in February 2009 ("2009 Bushfires").
2. The preparation and planning by governments, emergency services, other entities, the community and households for bushfires in Victoria, including current laws, policies, practices, resources and strategies for the prevention, identification, evaluation, management and communication of bushfire threats and risks.

3. All aspects of the response to the 2009 Bushfires, particularly measures taken to control the spread of the fires and measures taken to protect life and private and public property, including but not limited to:
  - (a) immediate management, response and recovery; (b) resourcing, overall coordination and deployment; and
  - (c) equipment and communication systems.
4. The measures taken to prevent or minimise disruption to the supply of essential services such as power and water during the 2009 Bushfires.
5. Any other matters that you deem appropriate in relation to the 2009 Bushfires.

AND WE direct you to make such recommendations arising out of your inquiry as you consider appropriate, including recommendations for governments, emergency services, other entities and the community on:

6. The preparation and planning for future bushfire threats and risks, particularly the prevention of loss of life. <sup>u</sup>
7. Land use planning and management, including urban and regional planning.
8. The fireproofing of housing and other buildings, including the materials used in construction.
9. The emergency response to bushfires.
10. Public communication and community advice systems and strategies.
11. Training, infrastructure, and overall resourcing needs.

AND WE do by these presents give and grant you full power and authority to call before you such person or persons as you shall judge likely to afford you any information upon the subject of this Our

Commission, and to inquire of and concerning the premises by all other lawful ways and means whatsoever.

AND WE declare the powers of the Commission at the discretion of the Chairperson may, at any time, be exercised by one or more Commissioners.

AND WE will and command that this Our Commission shall continue in full force and virtue and that you shall and may from time to time and at every place or places proceed in the execution thereof, and of every matter and thing therein contained although the same be not continued from time to time by adjournment.

AND WE direct you to conduct your inquiry as expeditiously as possible and to furnish US with:

- (i) an interim report focusing on immediate actions that can be taken prior to the 2009-2010 fire season, by 17 August 2009; and
- (ii) a final report by 31 July 2010 or such later date as WE may be pleased to fix.

IN TESTIMONY WHEREOF WE have caused these Our Letters to be made Patent and the Seal of the State to be hereunder affixed.



WITH

His Excellency Professor David de Kretser, Companion of the Order of Australia, Governor of Victoria and its dependencies in the Commonwealth of Australia at Melbourne this day of February Two thousand and nine in the fifty-eighth year of Our reign.

By His Excellency's Command

Premier of Victoria

Entered on the record by me in the Register of Patents Book No 44 Page No 111 on  
the 16<sup>th</sup> day of February 2009.

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Secretary, Department of Premier and Cabinet

# APPENDIX B

## Order in Council containing Terms of Reference

### COMMISSIONS OF INQUIRY ORDER (No.1) 2011

#### 1. Short Title

This Order in Council may be cited as *Commissions of Inquiry Order (No.1) 2011*.

#### 2. Appointment of Commission

UNDER the provisions of the *Commissions of Inquiry Act 1950*, Her Excellency the Governor, acting by and with the advice of the Executive Council, hereby appoints the Honourable Justice Catherine Holmes to make full and careful inquiry in an open and independent manner with respect to the following matters:-

- a) the preparation and planning by federal, state and local governments; emergency services and the community for the 2010/2011 floods in Queensland,
- b) the performance of private insurers in meeting their claims responsibilities,
- c) all aspects of the response to the 2010/2011 flood events, particularly measures taken to inform the community and measures to protect life and private and public property, including
  - immediate management, response and recovery
  - resourcing, overall coordination and deployment of personnel and equipment
  - adequacy of equipment and communications systems; and
  - the adequacy of the community's response.
- d) the measures to manage the supply of essential services such as power, water and communications during the 2010/2011 flood events,
- e) adequacy of forecasts and early warning systems particularly as they related to the flooding events in Toowoomba, and the Lockyer and Brisbane Valleys,
- f) implementation of the systems operation plans for dams across the state and in particular the Wivenhoe and Somerset release strategy and an assessment of compliance with, and the suitability of the operational procedures relating to flood mitigation and dam safety,
- g) all aspects of land use planning through local and regional planning systems to minimise infrastructure and property impacts from floods,
- h) in undertaking its inquiries, the Commission is required to:
  - take into account the regional and geographic differences across affected communities; and
  - seek public submissions and hold public hearings in affected communities.

#### 3. Commission to report

AND directs that the Commissioner make full and faithful report concerning the aforesaid subject matter of inquiry, and make recommendations which she considers appropriate, feasible and cost effective to improve:

- the preparation and planning for future flood threats and risks, in particular the prevention of the loss of life;
- the emergency response in natural disaster events; and
- any legislative changes needed to better protect life and property in natural disaster events.



and transmit an interim report to the Honourable the Premier and Minister for Reconstruction by 1 August 2011, on matters associated with flood preparedness to enable early recommendations to be implemented before next summer's wet season, and a final report by 16 March 2012. [Amended by the *Commissions of Inquiry Amendment Order (No.1) 2012*, made by the Governor in Council on 25 January 2012.]

#### **4. Report to be made public**

AND further directs that the Reports transmitted to the Honourable the Premier and Minister for Reconstruction be made public upon their transmission to the Honourable the Premier and Minister for Reconstruction.

#### **5. Deputies to the Commission**

Under Section 27 of the *Commissions of Inquiry Act 1950*, Her Excellency the Governor, acting by and with the advice of the Executive Council approves the appointment of Mr James O'Sullivan AC and Mr Phillip Cummins as Deputies to the abovementioned Commission.

#### **6. Application of Act**

The provisions of the *Commissions of Inquiry Act 1950* shall be applicable for the purposes of this inquiry except for section 19C – Authority to use listening devices.

#### **7. Conduct of Inquiry**

The Commissioner may hold public and private hearings in such manner and in such locations as may be necessary and convenient. The Commissioner may:

- a) hold hearings constituted by the Commissioner, whether sitting alone or with one or both of her Deputies; or
- b) authorise her Deputies or either of them to hold hearings or exercise powers pursuant to Section 28 of the *Commissions of Inquiry Act 1950*.

#### **ENDNOTES**

1. Made by the Governor in Council on 17 January 2011.
2. Published in an Extraordinary Gazette 17 January 2011.
3. Not required to be laid before the Legislative Assembly.
4. The administering agency is the Department of the Premier and Cabinet.

## APPENDIX C

### Royal Commission of Inquiry into Building Failure caused by Canterbury Earthquakes

Elizabeth the Second, by the Grace of God Queen of New Zealand and her Other Realms and Territories, Head of the Commonwealth, Defender of the Faith:

To The Honourable MARK LESLIE SMITH COOPER, of Auckland, Judge of the High Court of New Zealand; Sir RONALD POWELL CARTER, KNZM, of Auckland, Engineer and Strategic Adviser; and RICHARD COLLINGWOOD FENWICK, of Christchurch, Associate Professor of Civil Engineering:

GREETING:

*Recitals*

WHEREAS the Canterbury region, including Christchurch City, suffered an earthquake on 4 September 2010 and numerous aftershocks, for example—

- (a) the 26 December 2010 (or Boxing Day) aftershock; and
- (b) the 22 February 2011 aftershock:

WHEREAS approximately 180 people died of injuries suffered in the 22 February 2011 aftershock, with most of those deaths caused by injuries suffered wholly or partly because of the failure of certain buildings in the Christchurch City central business district (**CBD**), namely the following 2 buildings:

- (a) the Canterbury Television (or CTV) Building; and
- (b) the Pyne Gould Corporation (or PGC) Building:

WHEREAS other buildings in the Christchurch City CBD, or in suburban commercial or residential areas in the Canterbury region, failed in the Canterbury earthquakes, causing injury and death:

WHEREAS a number of buildings in the Christchurch City CBD have been identified as unsafe to enter following the

22 February 2011 aftershock, and accordingly have been identified with a red card to prevent persons from entering them:

WHEREAS the Department of Building and Housing has begun to investigate the causes of the failure of four buildings in the Christchurch City CBD (the **4 specified buildings**), namely the 2 buildings specified above, and the following 2 other buildings:

- (a) the Forsyth Barr Building; and
- (b) the Hotel Grand Chancellor Building:

WHEREAS it is desirable to inquire into the building failures in the Christchurch City CBD, to establish—

- (a) why the 4 specified buildings failed severely; and
- (b) why the failure of those buildings caused such extensive injury and death; and
- (c) why certain buildings failed severely while others failed less severely or there was no readily perceptible failure:

WHEREAS the results of the inquiry should be available to inform decision-making on rebuilding and repair work in the Christchurch City CBD and other areas of the Canterbury region:

*Appointment and order of reference*

KNOW YE that We, reposing trust and confidence in your integrity, knowledge, and ability, do, by this Our Commission, nominate, constitute, and appoint you, The Honourable MARK LESLIE SMITH COOPER, Sir RONALD POWELL CARTER, and RICHARD COLLINGWOOD FENWICK, to be a Commission to inquire into and report (making any interim or final recommendations that you think fit) upon (having regard, in the case of paragraphs (a) to (c), to the nature and severity of the Canterbury earthquakes)—

*Inquiry into sample of buildings and 4 specified buildings*

- (a) in relation to a reasonably representative sample of buildings in the Christchurch City CBD, including the 4 specified buildings as well as buildings that did not fail or did not fail severely in the Canterbury earthquakes—
  - (i) why some buildings failed severely; and
  - (ii) why the failure of some buildings caused extensive injury and death; and
  - (iii) why buildings differed in the extent to which—
    - (A) they failed as a result of the Canterbury earthquakes; and
    - (B) their failure caused injury and death; and
  - (iv) the nature of the land associated with the buildings inquired into under this paragraph and how it was affected by the Canterbury earthquakes; and

- (v) whether there were particular features of a building (or a pattern of features) that contributed to whether a building failed, including (but not limited to) factors such as—
  - (A) the age of the building; and
  - (B) the location of the building; and
  - (C) the design, construction, and maintenance of the building; and
  - (D) the design and availability of safety features such as escape routes; and
- (b) in relation to all of the buildings inquired into under paragraph (a), or a selection of them that you consider appropriate but including the 4 specified buildings,—
  - (i) whether those buildings (as originally designed and constructed and, if applicable, as altered and maintained) complied with earthquake-risk and other legal and best-practice requirements (if any) that were current—
    - (A) when those buildings were designed and constructed; and
    - (B) on or before 4 September 2010; and
  - (ii) whether, on or before 4 September 2010, those buildings had been identified as “earthquake-prone” or were the subject of required or voluntary measures (for example, alterations or strengthening) to make the buildings less susceptible to earthquake risk, and the compliance or standards they had achieved; and
- (c) in relation to the buildings inquired into under paragraph (b), the nature and effectiveness of any assessment of them, and of any remedial work carried out on them, after the 4 September 2010 earthquake, or after the 26 December 2010 (or Boxing Day) aftershock, but before the 22 February 2011 aftershock; and

*Inquiry into legal and best-practice requirements*

- (d) the adequacy of the current legal and best-practice requirements for the design, construction, and maintenance of buildings in central business districts in New Zealand to address the known risk of earthquakes and, in particular—
  - (i) the extent to which the knowledge and measurement of seismic events have been used in setting legal and best-practice requirements for earthquake-risk management in respect of building design, construction, and maintenance; and
  - (ii) the legal requirements for buildings that are “earthquake-prone” under section 122 of the Building Act 2004 and associated regulations, including—
    - (A) the buildings that are, and those that should be, treated by the law as “earthquake-prone”; and
    - (B) the extent to which existing buildings are, and should be, required by law to meet requirements for the design, construction, and maintenance of new buildings; and
    - (C) the enforcement of legal requirements; and
  - (iii) the requirements for existing buildings that are not, as a matter of law, “earthquake-prone”, and do not meet current legal and best-practice requirements for the design, construction, and maintenance of new buildings, including whether, to what extent, and over what period they should be required to meet those requirements; and
  - (iv) the roles of central government, local government, the building and construction industry, and other elements of the private sector in developing and enforcing legal and best-practice requirements; and
  - (v) the legal and best-practice requirements for the assessment of, and for remedial work carried out on, buildings after any earthquake, having regard to lessons from the Canterbury earthquakes; and
  - (vi) how the matters specified in subparagraphs (i) to (v) compare with any similar matters in other countries; and

*Other incidental matters arising*

- (e) any other matters arising out of, or relating to, the foregoing that come to the Commission’s notice in the course of its inquiries and that it considers it should investigate:

*Matters upon or for which recommendations required*

And, without limiting the order of reference set out above, We declare and direct that this Our Commission also requires you to make both interim and final recommendations upon or for—

- (a) any measures necessary or desirable to prevent or minimise the failure of buildings in New Zealand due to earthquakes likely to occur during the lifetime of those buildings; and
- (b) the cost of those measures; and
- (c) the adequacy of legal and best-practice requirements for building design, construction, and maintenance insofar as those requirements apply to managing risks of building failure caused by earthquakes:

*Exclusions from inquiry and scope of recommendations*

But, We declare that you are not, under this Our Commission, to inquire into, determine, or report in an interim or final way upon the following matters (but paragraph (b) does not limit the generality of your order of reference, or of your required recommendations):

- (a) whether any questions of liability arise; and
- (b) matters for which the Minister for Canterbury Earthquake Recovery, the Canterbury Earthquake Recovery Authority, or both are responsible, such as design, planning, or options for rebuilding in the Christchurch City CBD; and
- (c) the role and response of any person acting under the Civil Defence Emergency Management Act 2002, or providing any emergency or recovery services or other response, after the 22 February 2011 aftershock:

#### *Definitions*

And, We declare that, in this Our Commission, unless the context otherwise requires,—

**best-practice requirements** includes any New Zealand, overseas country's, or international standards that are not legal requirements

**Canterbury earthquakes** means any earthquakes or aftershocks in the Canterbury region—

- (a) on or after 4 September 2010; and
- (b) before or on 22 February 2011

**Christchurch City CBD** means the area bounded by the following:

- (a) the 4 avenues (Bealey Avenue, Fitzgerald Avenue, Moorhouse Avenue, and Deans Avenue); and
- (b) Harper Avenue

**failure**, in relation to a building, includes the following, regardless of their nature or level of severity:

- (a) the collapse of the building; and
- (b) damage to the building; and
- (c) other failure of the building

**legal requirements** includes requirements of an enactment (for example, the building code):

#### *Appointment of chairperson*

And We appoint you, The Honourable MARK LESLIE SMITH COOPER, to be the chairperson of the Commission:

#### *Power to adjourn*

And for better enabling you to carry this Our Commission into effect, you are authorised and empowered, subject to the provisions of this Our Commission, to make and conduct any inquiry or investigation under this Our Commission in the manner and at any time and place that you think expedient, with power to adjourn from time to time and from place to place as you think fit, and so that this Our Commission will continue in force and that inquiry may at any time and place be resumed although not regularly adjourned from time to time or from place to place:

#### *Information and views, relevant expertise, and research*

And you are directed, in carrying this Our Commission into effect, to consider whether to do, and to do if you think fit, the following:

- (a) adopt procedures that facilitate the provision of information or views related to any of the matters referred to in the order of reference above; and
- (b) use relevant expertise, including consultancy services and secretarial services; and
- (c) conduct, where appropriate, your own research; and
- (d) determine the sequence of your inquiry, having regard to the availability of the outcome of the investigation by the Department of Building and Housing and other essential information, and the need to produce an interim report:

#### *General provisions*

And, without limiting any of your other powers to hear proceedings in private or to exclude any person from any of your proceedings, you are empowered to exclude any person from any hearing, including a hearing at which evidence is being taken, if you think it proper to do so:

And you are strictly charged and directed that you may not at any time publish or otherwise disclose, except to His Excellency the Governor-General of New Zealand in pursuance of this Our Commission or by His Excellency's direction, the contents or purport of any interim or final report so made or to be made by you:

And it is declared that the powers conferred by this Our Commission are exercisable despite the absence at any time of any 1 member appointed by this Our Commission, so long as the Chairperson, or a member deputed by the Chairperson to act in the place of the Chairperson, and at least 1 other member, are present and concur in the exercise of the powers:

#### *Interim and final reporting dates*

And, using all due diligence, you are required to report to His Excellency the Governor-General of New Zealand in writing under your hands as follows:

- (a) not later than 11 October 2011, an interim report, with interim recommendations that inform early decision-making on rebuilding and repair work that forms part of the recovery from the Canterbury earthquakes; and
- (b) not later than 11 April 2012, a final report:

And, lastly, it is declared that these presents are issued under the authority of the Letters Patent of Her Majesty Queen Elizabeth the Second constituting the office of Governor-General of New Zealand, dated 28 October 1983\*, and under the authority of and subject to the provisions of the Commissions of Inquiry Act 1908, and with the advice and consent of the Executive Council of New Zealand.

In witness whereof We have caused this Our Commission to be issued and the Seal of New Zealand to be hereunto affixed at Wellington this 11th day of April 2011.

Witness Our Trusty and Well-beloved The Right Honourable Sir Anand Satyanand, Chancellor and Principal Knight Grand Companion of Our New Zealand Order of Merit, Principal Companion of Our Service Order, Governor-General and Commander-in-Chief in and over Our Realm of New Zealand.

ANAND SATYANAND, Governor-General.

By His Excellency's Command—

JOHN KEY, Prime Minister.

Approved in Council—

REBECCA KITTERIDGE, Clerk of the Executive Council.

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# Legislation

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*Bushfires Royal Commission (Report) Act 2009 (Vic)*

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